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The Railway Labour Situation

THE uneasiness which underlies the railway labour position at the present time was manifest in a one-day token strike in the London District last Monday. In the event, only certain of the L.T.E. lines and a relatively few railway services were affected. Now the country is faced with the threat of a national railway strike as from midnight on February 14. When Sir Brian Robertson, Chairman of the British Transport Commission, met the heads of the N.U.R., A.S.L.E.F., and T.S.S.A. on Friday last, he had already undertaken to grant a back-dated pay increase on receipt of the Guillebaud Report if its terms were favourable to such an offer: there is little doubt that the N.U.R. expected a concrete offer at the meeting. From a statement subsequently issued by the Commission, it appears that Sir Brian Robertson was willing to make an immediate overall increase but that he withheld the offer because A.S.L.E.F. and T.S.S.A. refused to break the previous four-party agreement between the three unions and the Commission. This was that none of the parties should enter into any prior commitment on the report of the Committee. In these circumstances, Sir Brian Robertson had no option but to withhold any offer he might have considered making; he could not have made a settlement with only one of the unions concerned, particularly as the other two had scrupulously observed the Committee's interim requirements and had refrained from embarrassing action. The reaction of the N.U.R. executive committee was to call for strike action. After the meeting, the London District issued a statement recommending its members against token strike action on the following Monday but recognising the probability that many depots would strike and promising them its support. Full support was also pledged to the National Executive Committee for the strike on February 15 and full mobilisation of the London District membership of the union was promised. There can be no doubt in any unprejudiced mind that, should a national strike be brought about, the onus for it will rest squarely on the shoulders of the N.U.R.

The Olive Branch

THE formal statement of the N.U.R's. intention to strike on February 15 was made in a letter addressed by Mr. Greene to Sir Brian Robertson after Friday's meeting. In his reply, Sir Brian Robertson reminded Mr. Greene that such action would conflict with two agreements—the memorandum of agreement on the machinery of negotiation for railway salaried and conciliation staff between the Commission and the unions, and the agreement between the same parties to the setting-up of the Guillebaud Committee. Clause 17 of the memorandum of agreement states: " in no circumstances shall there be any withdrawal of labour or any attempt on the part of the staff to hamper the proper working of the railway until any matter in dispute has been submitted through the proper channels to the higher management, or if such matter is within the scope of the machinery of negotiation, until the provisions thereof have been fully utilised." Sir Brian Robertson also appealed to everyone concerned to continue their efforts to find a solution to the problem which had arisen and to restore peace of mind to the men on British Railways. He emphasised that the Commission remains ready to join in any such efforts.

Mr. J. Ratter

MR. J. RATTER, Member of the British Transport Commission, is the first British member of the International Union of Railways (U.I.C.) ever to have been President-Elect of that body. The U.I.C. was founded in 1922, and over the years it has become the custom for the President to be elected from the French National Railways. This continued until 1958, when Mr. Louis Armand, President of S.N.C.F., who held the office for the past seven years retired. It was then decided that Professor Dr. H. M. Oeftering, Senior Chairman of the German Federal Railways should hold the office for the next two years. This period expires in December next when Mr. Ratter will take over. In recognition of the fact the French National Railways have provided the President for 36 years, it was decided at the 47th meeting of the General Assembly, held in Paris last December, that a French official should be made President of Honour of the International Union of Railways, and that Mr. Louis Armand should be the holder of this office.

Mr. H. N. Edwards

LAST week Mr. H. N. Edwards, Chairman & Managing Director of Metropolitan-Cammell Carriage & Wagon Co. Ltd., having reached the normal retiring age, relinquished his Managing Directorship, a position which he had held since 1954. He succeeded the late Sir Archibald J. Boyd as Chairman last August, and the company is to continue to benefit from his guidance in this capacity. Mr. Edwards has been associated with the company and its predecessors throughout his career, which began in the drawing office of the Bristol Wagon & Carriage Works in 1910. Since then he has built up a wide knowledge of the industry in general and the company in particular. This technical knowledge, coupled with his administrative ability, has played a large part in the company's affairs in the home and export market. He has been

succeeded, as Managing Director, by Mr. D. J. C. Robertson, who is 48. Mr. Robertson was a Student Apprentice with British Thomson-Houston Co. Ltd., at Rugby. His knowledge has been broadened by various mechanical and electrical engineering appointments outside the industry; he joined his present company in 1946 as Assistant to the Production General Manager.

Mr. A. C. Hartley

THE late Mr. A. C. Hartley, whose obituary appears elsewhere in this issue, achieved the unusual distinction of having held the office of President of this country's two principal engineering institutions; he was President this year of the Institution of Civil Engineers and during 1951-52 was President of the Institution of Mechanical Engineers. He was educated at the City & Guilds (Engineering) College, London, and began his career as a pupil of the late Mr. T. M. Newell, then Chief Engineer, Hull Docks, North Eastern Railway. Mr. Hartley's long and outstanding association with the oil engineering industry began in 1924, when he became Assistant Manager in the Engineering Department of the Anglo-Persian Oil Co. Ltd. Ten years later he became Chief Engineer of the company—then the Anglo-Iranian Oil Co. Ltd. During the last war Mr. Hartley was largely responsible for solving the problems of the supply of fuel to the Allied armies in Europe by his work in connection with the development of " Pluto "—the cross-Channel pipe line.

Institute of Transport Congress in London

THIS year will see many tangible results of the efforts being made to improve the means of transport in Britain, and notably British Railways. It is fitting, therefore, that London is the venue of the fortieth annual congress of the Institute of Transport on April 26-29. The opening will be by Mr. Ernest Marples, Minister of Transport. The principal speakers will include Sir Brian Robertson, Chairman of the British Transport Commission, on the future of inland transport. Of the visits to railway installations the most notable perhaps will be to the Kent Coast line electrification in the Southern Region, with visits to the signalbox at Sittingbourne and the remote control on the Sheerness branch. In the Eastern Region, visitors will see the electric sheds at Ilford, with views *en route* of the new Temple Mills Marshalling Yard, and of reconstruction works at Barking Station and the new flyovers nearby. In the London Midland Region the carriage cleaning and servicing depot at Willesden can be inspected; in the Western Region, the signal works and diesel depots at Reading; and on the London Transport Underground, the signalling installation at Leicester Square on the Northern Line. The B.T.C. archives at Porchester Road, W.2, and the collection of historical railway vehicles and other relics at Clapham will also be available for inspection. There will be opportunities also to see the installations and operation of other forms of transport, including British Waterways and British Road Services, and of enterprises and industries concerned with transport.

Vicissitudes of Nationalised Transport

NOW that plans for re-equipment of British Railways are being implemented at increasing momentum, past Governments are sometimes criticised for not launching the plans earlier than 1955. Sir John Benstead, Deputy Chairman of the Commission, in his paper read last Monday to the Metropolitan Section of the Institute of Transport, maintained that in 1947 and for a considerable time afterwards the economic position of Britain, with a scarcity of essential materials, war damage not yet overtaken, and effort concentrated on the export drive, limited the activities of nationalised transport. Re-equipment of the railways on the scale now contemplated would have been out of the question. The fact that implementation of modernisation plans has been retarded on occasions by shortages of material can be cited in support. Whether the Conservative Government of 1951-55 could have made available the money for modernisation before 1955 instead of dismembering the nationalised transport undertaking, is another matter. Sir John Benstead reminded his audience of the magnitude of the tasks of moulding the 3,000 road haulage businesses acquired on nationalisation into the efficient concern, British Road Services, which they later became, and of the subsequent breaking up of that undertaking. He referred also to the plans in 1950-51 of the Commission for decentralisation of the management of British Railways and for closer co-operation between rail and road services; the latter were nullified by the changes initiated by the new Government. The paper gave rise to a particularly useful discussion.

P.W.I. Conversazione

IMPROVEMENTS in the equipment and services of British Railways which will be visible in the near future, were emphasised by Mr. John Ratter, Member of the British Transport Commission and Past President of the Permanent Way Institution, at the Institution Conversazione last Saturday. They included a considerable increase in the amount of long-welded rails, twice as much of which was to be laid this year as in 1959; extension of electrification; many new diesel locomotives; and the diesel multiple-unit Pullman trains between London and Manchester and Bristol. The latter, as he pointed out, will be a very good counterpart to the "Trans-Europe Express " diesel services on the Continent. This year, he believes, will be a year of opportunity for British Railways. The guest of honour at the Conversazione, a brief account of which is given on page 170, was Monsieur Marcel de Vos, Director-General of the Belgian National Railways. His presence, as Mr. C. E. Dunton, Chief Civil Engineer of London Transport Executive pointed out, was specially welcome, not only because he was, with many other qualifications, a civil, electrical, and telephone and telegraph engineer, but because members of the Permanent Way Institution were to renew their friendships with their Belgian colleagues by holding their 1960 Summer Convention in Belgium. Mr. Dunton was elected President for the second year in succession.

The Development of Rail Travel

IN this issue, an article by Mr. C. Ayers, M.B.E., Passenger Assistant to the Commercial Officer, York, North Eastern Region, British Railways, describes the Region's post-war progress in re-capturing and promoting passenger rail traffic. In common with the other Regions of British Railways, the North Eastern had to overcome considerable psychological opposition to rail traffic on the part of the public. Railways were connected in the public mind with troop movements and partings, and travel generally was at a low ebb. Equipment, largely unaugmented during the war years, had received insufficient maintenance, and any traffic offering tended to go by road. Energetic and imaginative efforts were required to attract customers and to hold them, once gained. Much has been done in the fourteen years which have elapsed since the first systematic efforts were made and, during the eight years from 1950 to 1958, the receipts index has risen by 30 points. Mr. Ayers details the various measures taken and his article will undoubtedly be of considerable interest to other railway systems which are experiencing similar problems in expanding their passenger traffic receipts.

British Railways Press Advertising Campaign

PROGRESS already achieved in modernising British Railways and the extent of the technical revolution are the theme of the advertising campaign initiated last week by the British Transport Commission in national and provincial newspapers. Complete pages have been booked in 18 newspapers and a series of 12 advertisements has been planned for each. Attention is drawn to the revolutionary nature of the changes in equipment and techniques. What has been and is being done involves production by British industry for the home railways of equipment and materials on the largest scale for many years; but the significant fact is not the quantity, nor the additional power and efficiency, of what is being provided, but its essential novelty. Before the new concepts can be put into practice, much work has to be done in the spheres of civil engineering, signalling and operating. The advertisements show in well-reproduced photographic illustrations something of what has already been achieved in several spheres, including mechanical handling of goods, new stations, and catering.

Those of the public who realise the scope and cost of the work already completed and in hand, and realise the causes of many delays to trains, may be less critical of the railways. With public attention focused on transport a carefully planned campaign of this kind is timely.

Development of Railway Property

RAILWAYS in many countries derive considerable income from development of their land in large cities and elsewhere. This is regarded as a legitimate activity of railways as of any other business, but the British Transport Commission is debarred by the Transport Act of 1947 from developing land and letting it out on a commercial basis. The Minister of Transport, Mr. Ernest Marples, is now considering a request by the Commission that legislation be enacted to enable it to use its land to advantage. This was announced in the House of Commons last week by Mr. John Hay, Parliamentary Secretary, Ministry of Transport, as recorded elsewhere in this issue. The matter arose in connection with Marylebone Station, which, it was suggested by a Conservative Member, Sir Wavell Wakeford, should be closed, with subsequent development of the site. Marylebone Station, in fact, has by no means reached the end of its useful life. Although the passenger service over the main line of the former Great Central Railway has been curtailed, Marylebone will have other uses, as Mr. Hay pointed out. Nevertheless, the development of other sites should be a legitimate source of much-needed revenue.

What Railways Cost

UNDER the heading, " What Railways Cost " an exchange of views has been taking place in the correspondence columns of *The Times* as to whether the railways require a capital reconstruction to enable them to operate on a competitive basis. On the one side it is contended that such a reconstruction is necessary to allow competition upon equal terms with our foreign industrial competitors, and on the other that as the cost of replacement of our railway system is so very much greater than its historic cost, which has been substantially written down, they should be able, with good management, to pay their way.

Without entering into the merits of the arguments adduced by both sides, the fact remains, as has frequently been stated in our columns, that it becomes increasingly difficult to believe that on their present financial basis the British Railways can ever earn a sufficiently large working surplus to cover their share of the mounting capital charges of the British Transport Commission. These bear no more relation to the original cost of construction than they do to the cost of acquisition on nationalisation.

Under the modernisation plan the railways are in effect being rebuilt at a cost of some £1,500 million, which compares with less than the £1,000 million paid out in Transport Stock to the former railway shareholders when their holdings were taken over at their Stock Exchange values. The annual interest they receive is under £30 million; the total interest charges for 1948, which included that paid on the compensation stock issued for the other undertakings acquired, e.g., London Transport and the canals, was £42 million. By 1958 total interest charges had risen to £72 million, and in its re-appraisal last year the Commission estimated that it would be £110 million by 1965. This increase in interest charges by two-and-a-half times since nationalisation in 1948, results both from capital borrowed for modernisation and from deficit borrowings. The former is productive and the latter is not, being merely a deferment of liability. To blame the burden of compensation as largely responsible for railway financial difficulties, as the National Union of Railwaymen tends to do, is as wide of the mark as is the implied suggestion that the capital liabilities are not excessive because the replacement cost would be so very much greater than the price paid on acquisition.

The financial troubles of the Commission, and the poor showing of British Railways, which is responsible for them, derive from many other factors. The delay in modernisation is not the least, and for that both political parties are to blame. The Labour Governments starved the railways of capital investment and the Conservatives were in power some years before the present modernisation plan was launched. Economic conditions have been largely responsible for the heavy losses incurred during the last three years, while from the outset the railways have been dogged by the delays, arising from a number of causes, in raising charges to meet higher costs, including increased wages bills. Nor should it be overlooked that the basis of compensation, irrespective as to whether its total was too much or too small, was such that the Commission had no reserve on which to fall back in the bad years. The Transport Stock substituted for railway stocks, including the equities, carries a fixed rate of interest of 3 per cent which must be paid in bad years as well as in good. The Commission cannot pass or reduce dividends, as could the railway companies. Had it been able to do so the deficits would have been smaller.

It is to be hoped that as the modernisation programme proceeds and economic conditions improve, the railways will better their competitive position and that their revenues will increase. But it remains highly doubtful whether they can do so to such an extent as to enable the British Transport Commission to meet such heavy capital liabilities as confront it in the years ahead. In these circumstances, some financial adjustment seems unavoidable if the Commission is to achieve financial equilibrium, despite the arguments of the economists in the columns of *The Times*. What form this should take is for the Government and Parliament to decide. Perhaps the simplest method would be to transfer some of the liability from the Commission to the Treasury so as to leave no larger liability with the Commission than it can reasonably be expected to cover, consistent with the competitive operation of its undertakings. In effect, this means a subsidy, but it would be a once-for-all operation preferable to an annual subsidy, payable direct to the Commission, with its adverse effect on efficiency of operation and the morale of the staff, which would otherwise become inevitable if a re-arrangement of the financial structure of the Commission were delayed much longer.

The International Union of Railways

THE election of the first British President of the International Union of Railways (U.I.C.), Mr. John Ratter, a Member of the British Transport Commission, who takes office in December, shows the closeness of the links between the British railway system and those of the Continent of Europe. Apart from the physical links provided by the many rail and steamer services of the British and associated railway and other undertakings on the Continent, there is a great deal of co-operation between British and Continental railways, under the aegis of the International Union of Railways, in consultation, deliberation and research in every field of railway activity. These associations will be greatly strengthened by the Channel Tunnel, if, as now seems not unlikely, the British and French Governments give their consent and the capital is made available.

Elsewhere in this issue are given some details of the activities of the Union. Particulars also are given of the way in which the Union has been modified to meet changing conditions. The new arrangements, which were adopted in July 1958, and brought into operation last year, have one single aim : that of increasing the productivity of the Union in every sphere. However important they may be, they are only a series of means or of instruments, the value of which will be shown by the use which is made of them. It is to the extent to which advantage is taken of them that it will be possible for the U.I.C. to carry out its task of representing the railways whenever their interests are under discussion and, in general, to fulfil the whole of its responsibilities.

The structure adopted, which seeks to reconcile a fair measure of centralisation, effected through a Board of Management exercising permanent control, with a flexible form of delegation of authority to take decisions between the specialist organisations, committees, offices and even " participating organisations," co-ordinated through a General Secretariat, might well be the nucleus of the principal structures of a more unified railway system in Europe. There is also the possibility of increasing recourse to permanent bodies such as the Office for Research & Experiments, the Europ Wagon Pool, the " Trans Europe Express " organisation and the Managing Bureaux of the Committees, which

provide different means for dealing with technical and other problems through executive bodies. The latter operate in accordance with the directives given at international meetings and facilitate the work of those meetings, while accelerating its completion and keeping it on a practical basis.

The General Assembly of the U.I.C. has also favoured proposals for introduction of arbitration procedures which, within the general framework of the Union, would provide the railways with the means of settling problems or even disputes, whilst avoiding discussions which are sometimes lengthy and delay in the settlement of a number of questions of joint interest. A thorough examination of this question is to be undertaken. The international organisation of the railways may develop along these lines.

Beyond this, in the opinion of Monsieur Jean Tuja, Secretary General of the Union, it is impracticable to envisage any greater degree of "integration" of the railways. To the extent to which this expression, today very widely used, applies to a system in which the national interests are subordinated to certain joint interest, it is not possible to conceive within the railway sphere any important new development, except within the wider framework of the integration of the economies of the different States. But it is possible to hope, in the light of past experience, that if one day such a task proves to be possible, the U.I.C. may be a valuable instrument for this purpose.

Japanese National Railways Progress

ELECTRIFICATION of additional lines, installation of C.T.C., and the submission of the final report of the Trunk Line Survey Committee on the Tokyo-Osaka standard-gauge line were the main features of 1958-59, on the Japanese National Railways. An account of progress is given in an admirably produced and illustrated booklet sent us by Mr. S. Sogo, President of the J.N.R. No other system of less than standard gauge equals the 3 ft. 6 in. gauge of J.N.R. in running speeds or surpasses it in density of traffic or in the enterprise with which it is taking action to deal with the problems presented by increasing traffic and competition from other means of transport.

At the end of 1958 the electrified route-mileage was nearly 1,400, or 11 per cent of the total, and an increase of 87 route-miles over the preceding year. Conversions during the year were at 1,500V. d.c., but performance on certain sections previously electrified at 50 cycles and 60 cycles a.c. is being studied. Electrification of the J.N.R. including tests of running at very high speeds on the 3 ft. 6 in. gauge, was the subject of an illustrated article in our October 23, 1959, issue. On two sections electrified during the year, the Tohoku and Sanyo Lines, a new power control system is used, the first installed on the J.N.R. with sub-stations remote-controlled from a key sub-station.

Passenger traffic increases constantly. The number of passengers carried in 1958-59 was 4,515 million, a four-fold increase since 1936. The number of train journeys per head of the population was 49. Despite the development of road and air transport, Japanese railways convey about one-half the total passenger traffic of the country, and a large proportion of passenger traffic over the longer distances, besides intensive suburban traffic. Additions to the long-distance high-speed trains include the "Kodama" multiple-unit electric train, described in our issue of December 19, 1958. In suburban traffic the policy is to charge very low fares, with many reductions for special categories of passenger, such as students.

In an expanding economy the trend of goods traffic is generally upward. The volume dropped, however, in 1958 by 6 per cent to 167 million tons compared with the previous year. The decrease is attributed to the recession resulting from the Government policy of disinflation enforced in the summer of 1957 to halt the reduction in Japan's international trade balance.

The average distances hauled range, at present, from 390 miles for fish and other sea produce, and from 370 for machinery and industrial products to 85 miles for minerals. There has recently been a tendency for less-than-wagonload traffic and higher-priced commodities generally to be consigned by road. This is the result of the growth in the number of road vehicles and of road hauliers taking advantage of the J.N.R. tariff policy of charging comparatively high rates for higher-priced commodities. Nevertheless, primary commodities such as coal, timber, and ores are conveyed mainly by rail, more particularly over longer distances. In the interests of the national economy the J.N.R. is required to grant special rebates on commodities such as lumber, raw fish, smokeless powdered coal, and limestone. The management is concentrating on modernisation of its goods services. Included among its plans are: extension to the entire network of the system of carrying less-than-wagonload traffic by "piggyback" except between main stations; application of piggyback transport to wagonload traffic; use of containers to accelerate door-to-door service through co-ordination with motor vehicles; and mechanisation of freight handling.

The installation of C.T.C. on the Ito Line has resulted in considerable reductions in requirements for signalmen and other staff in the operating department, and an increase in the throughput of traffic. The mileage controlled by automatic (including automatically controlled manual block system) is now 2,250 compared with 9,200 on the tablet system and 1,200 on the tablet and ticket block system and the Soshin block system. Much use is made of wireless telephony, including communication with certain trains such as the "Kodama."

Reorganisation of the timetables has resulted in acceleration of passenger services, and several long-distance express passenger services, including the 13-car "Asakaze" between Tokyo and Hakata, which runs through the Kammon Tunnel under the strait between the islands of Honshu and Kyushu. This train is hauled by locomotives, with electric traction for part of the journey. The traffic density in Japan is very high, frequently more than 70-80 trains a day on single-track main lines, while suburban electric trains are operated with a headway of 2 min. during peak hours in the Tokyo area.

Most trains are still steam-hauled, but introduction of electric and diesel traction is making steady progress. Diesel locomotives and multiple-unit diesel trains work on the more lightly trafficked lines, while the busier lines are, or are being, electrified. The 1,400 h.p. "DF-50" type locomotive is the standard diesel-electric locomotive for secondary main-line service, while for shunting wider use is being made of 740 h.p. diesel-hydraulic locomotives. Since 1955, all new passenger stock has been of ordinary steel, lightweight construction. Efforts have mainly been directed to the building of thrid class coaches, although the demand for higher-class travel facilities has resulted in the introduction of several long-distance trains for upper class passengers. Most of the goods stock consists of 15-ton wagons. Special wagons have been built for palletised traffic and fast trains conveying only containers run on the Tokaido Line. All rolling stock is fitted with automatic couplers and continuous brakes. The type of air brake used hitherto is being replaced by electric and disc brakes.

All new stock is supplied by private manufacturers, but repairs and rebuilding are carried out at 26 railway workshops. In maintenance of steam and electric locomotives, general overhaul in seven days is standard practice.

The financial result of the whole undertaking for 1958 was a net profit of 10,175 million yen against 22,632 million yen for the preceding year. Whilst operating revenue at 335,846 million yen showed an increase of only 1 per cent, operating expenses at 333,059 million yen increased by 5 per cent. Expenditure on wages, which constituted 57 per cent of the operating expense rose by 6 per cent, depreciation by 5 per cent, and interest by 15 per cent. Capital investment for 1958, the second year of implementation of the J.N.R. Five Year Plan, amounted to 96,300 million yen, of which amount 55,600 million was provided from earnings and the remainder procured through long-term borrowings from the Government and issue of railway bonds. The investments were directed to construction of new lines, improvement of suburban and main-line services, extension of electrification, purchase of additional rolling stock, including 202 diesel railcars, and replacements. The funds made available were not quite sufficient to reach the targets set for the year.

The number of employees reached its peak in 1947, at 610,543. Some 100,000 staff were dispensed with in 1949. Despite the decrease in the number of employees, the volume of traffic has increased, and the productivity per employee in 1958 had nearly doubled since 1936, despite the 20-30 per cent

reduction in working hours required by the Labour Standards Law of 1947. At the end of the last war and the enactment of the Trade Union Law, the employees of the J.N.R. organised a union which has been playing a leading role in the labour movement in Japan. Certain grades of motive power running and shed staff formed a separate union in 1951. Then, during the disputes in 1957, divergence of policy led to creation of two further unions. The four unions are " open shops " and have the right of collective bargaining, but as railways are of vital importance to the community, they are forbidden to strike.

The management has provided its employees with 81,986 houses, including reinforced concrete apartment houses besides 1,458 dormitories, the rent for which is extremely low. As regards medical service, the J.N.R. owns and operates 44 hospitals. The J.N.R. Mutual Aid Association pays pensions to retired employees. Other activities of the Asso-tion are the operation of the Savings & Loan Department and Commissary. Contributions are paid by the railway and employees.

Capturing Potential Goods Traffic

CONSTRUCTION and testing of a road-and-rail wagon for British Railways, referred to in our January 22 issue, have increased the potentialities of door-to-door traffic borne by rail. There is a good deal of new traffic generated by the economic development of this country which may be lost to the railways if transhipment is necessary.

The share carried by British Railways of the total of goods traffic of Great Britain fell from about 60 per cent in 1938 to 44 per cent in 1958 and to some 42 per cent last year. This is shown by Mr. K. F. Glover, a statistician of the Ministry of Transport, in a recent paper, " Statistics of the Transport of Goods by Rail," read to the Royal Statistical Society. In 1957-58, the estimated amount of traffic carried by road rose from 20·8 thousand million to 23·1 thousand million ton-miles, and that moved by British Railways fell from 20·9 to 18·4 thousand million ton-miles. The road ton-mileage exceeded the railway total for the first time. This intersection of the curves of the totals, he believes, may be partly an effect of fuel rationing at the time of the Suez crisis, which may have kept the road transport figures for 1956-57 below what they would otherwise have been and added to railway traffic. The road figures for those years might otherwise have been more in line with those of 1952-55, and the intersection would have come sooner. The figures, particularly those for the railways, were affected by the slack state of trade in certain industries in 1958 and the early part of 1959. The recovery of the steel industry is shown in the recent improvement in railway mineral traffics.

Mr. Glover shows in an analysis of sample surveys of road traffic this relative decline was only marginally the result of an actual loss of traffic to road transport. No doubt some traffic which previously passed by rail has been lost to road vehicles, particularly since 1951, but the railways are still carrying more traffic than they were in 1938, and by far the greater part of what is carried by road is new traffic. There is evidence that over half the " C "-licence vehicles on the roads are working for the distributive trades or in carrying materials to building sites—work for which railway transport is not suitable. This movement, with that in connection with the food, drink, and tobacco industries means that nearly two-thirds of the smaller (C-licence) vehicles are covered, and about three-fifths of the larger ones. The bulk of the C-licence fleet, he suggests, would appear to be carrying goods that would go by road even if the internal-combustion engine had never been applied to road transport.

All this is being considered by the managements of British Railways. Account has been taken of the future trends of increasing mineral and decreasing coal and of other heavy traffics for which the railways are clearly the best means of transport. Vigorous efforts are being made to capture other traffics by developing door-to-door transport. They include provision of containers adapted for various traffics, and the running of " liner " trains of containers on flat wagons. The first of these, the London-Glasgow " Condor " of the London Midland and the Scottish Regions, went into service last year. Wagons are being made available for special traffics such as powdered cement. Mechanical handling devices, which reduce transport costs, are being installed in goods depots. Technical research to improve all these physical means of dealing with goods, reduce cost, and devise new methods, continues.

Close study is being made by traffic officers of existing and potential traffics, including their suitability for movement by rail; their profitability for the railways (with the help of the costing officers); the effects of the interplay of road and rail rates; the cost of maintaining and operating " C "-licence vehicles; fluctuations in the prices of commodities which may affect the transport policy of consignors; and the need for and cost of the various speeds of transit required by different traffics. Decentralisation of the traffic organisation enables competitive rates to be assessed and quoted expeditiously, and close contact to be maintained with actual and potential consignors.

Railway traffic statistics are, on the whole, comprehensive, though those published by the British Transport Commission are sometimes criticised as incomplete. Those relating to road traffic are necessarily far less complete. Mr. Glover's paper, which is intended primarily for statisticians, shows what can be deduced from careful analysis, and as such it must be of great interest to railway traffic officers. A combination of sample inquiries into the operation of vehicles and counts of the numbers of vehicles passing points on the road system, he demonstrates, may provide a reasonable statistical picture of the work performed by the road goods vehicle fleet. Some of the methods and assumptions are as yet provisional and subject to further investigation, so that it would not be surprising if changes and revision became necessary as more information becomes available. The methods seem sufficiently reliable to justify his conclusions, which show that adequate statistics of the transport of goods by road may open up new possibilities in transport statistics.

Planning a Telephone System

FORTUNATELY for the railways it proved possible to construct as early as 1837, efficient means of electrical communication. That year saw the opening of the London & Birmingham Railway and the successful trials conducted between Euston and Camden by Wheatstone and Cooke with their five-needle apparatus. Little more than a scientific toy until then, the electric telegraph was shown conclusively to have become both technically and commercially practicable. Installed soon afterwards along the Great Western Railway to Slough, the service was made available to the public in April, 1844, and on the following New Year's Day a message sent from that station to Paddington resulted in the apprehension of Tawell for the Salt Hill murder. One of the instruments by which this was transmitted, of the now practically for-gotten double-needle type, is still preserved.

Electric telegraph companies were soon formed and an extensive network of communication rapidly built up, the line wires for which frequently followed the railway routes. The single-needle instrument came to be widely used, but in America and on the Continent, under the influence of Morse, the ink-writer and sounder were usually preferred. All these, with some other early forms of instrument, are met with still, possessing advantages rendering them valuable under certain circumstances where the application of more modern devices would not be justified. Railway business demanded reliable and rapid means of communication and today in Great Britain, where the public telegraph service has been for 90 years in the hands of the State, the railways form the largest " private " users of telegraph and telephone circuits.

The invention of telegraphy was especially valuable to the railways from the safety point of view, enabling the block telegraph system to be introduced and other forms of signalling apparatus, such as token instruments and signal repeaters, to be developed which in turn much increased the capacity of the lines. The telegraph superintendent early became one of the most important of railway officers and for some time everything electrical on the line remained his exclusive care. The telephone was not seen until the late 1870's and eventually it was ruled that public telephonic communication was legally the preserve of the Postmaster General, but he was persuaded to grant concessions to companies and municipalities in this field. At present, the Post Office has about 6,000 exchanges connecting with some seven million telephones, and for the

last 40 years automatic working has been progressively replacing the manual switchboards, themselves remarkable examples of engineering skill. The railways also adopted the telephone and found it very useful for many classes of message, although for others telegraphs remained preferred by some lines and today, in modern form, they play a highly important role in the communications service.

This calls for a variety of facilities, catering for certain circumstances peculiar to the operation of rail traffic as well as those which all railways have in common with other commercial undertakings. The former separate railway companies had gone a long way in introducing the latest developments in communications engineering and providing both telegraphic and telephonic links between the principal centres, stations, running sheds, workshops, signalboxes, and so on, with connection to the public services, essential to the conduct of business.

Nationalisation, with resultant altered forms of organisation, and the modernisation plan have made it essential to review the problem of telephone communication in a still broader aspect and elaborate an integrated network as found on certain other nationally-owned railway systems. A plan was accordingly drawn up for the British Transport Commission by consultants and is at present being studied. The numerous factors involved were put in all essentials before the Institution of Railway Signal Engineers on February 3 by Mr. W. J. Hills, of British Railways Central Staff, in a paper which gave valuable information on methods already used by Continental lines and the British postal authorities, and set forth the functions to be performed by an ideal telephone system. As Mr. Hills emphasised, a plan of this magnitude calls for extremely careful consideration of its basic elements, which must profoundly influence its development as a whole and its ability to meet future requirements.

LETTERS TO THE EDITOR

(*The Editor is not responsible for opinions of correspondents*)

Southern Region Motive Power

January 25

SIR,—Mr. G. A. Allan, in his letter in your issue of January 22, rightly says that it would be a pity if the Southern Region were to fall behind the Western Region in the introduction of modern motive power. We have no intention of doing so. The fact is, however, that for our Western Section we have not yet decided what form our modernisation should take. We are still investigating the relative merits of diesel and electric traction for that section.

Our silence on this matter does not mean that we are losing any time, because we would not in any case be able to undertake further major changes in traction until we have completed the work already in hand in the Kent area.

It is our policy to proceed steadily with the replacement of steam throughout the Region.

Yours faithfully,

F. D. Y. FAULKNER
Public Relations Officer

British Railways, Southern Region,
Waterloo Station, S.E.1

Diesel and Electric Traction

December 20

SIR,—Few people would dispute the good word you have for the 2,000-h.p. Type "4" English Electric locomotive (on page 583, your issue of December 18), but technical excellence does not haul trains and it has long been obvious that a diesel locomotive of that power is quite inadequate to meet present, let alone future, needs.

This is now becoming apparent to British Railways, as witness the statement of the Line Traffic Manager of the Great Northern, Mr. G. F. Fiennes, mentioned in your issue of December 4, to the effect that the policy of building locomotives of 2,000 h.p. for express service "already lies in ruins around us." Mr. Fiennes calls for "Deltics or electrics only and those worked to the limit of their power "as though the two forms of traction were identical.

The French National Railways, leaders in this direction, work their high-speed services either with diesel railcars with a very high power/weight ratio, or with electric locomotives of 4,000—5,000 h.p. British Railways, to meet the needs of their promised 75-80 m.p.h. *average* speeds, have one type of electric locomotive of 3,680 h.p. which is probably adequate in view of our lighter trains. But the Deltic, magnificent machine though it is in its class, at an equivalent 2,600 h.p. would rate far below the tiny S.N.C.F. BB 9400 class, of which the two motors give a continuous rating of 2,900 h.p. on a weight of only 59 tons. A Type "4" diesel locomotive with 1,000 h.p. less than a Deltic is in an entirely different category.

Just how little these matters seem to be appreciated is shown by another senior official of British Railways who gave the advantages of electric traction as greater reliability, which is useful, and the ability to use home-produced small coal, which is utterly unimportant, to the operating staff. Surely the overwhelming advantage of electric traction for the type of services envisaged in this country lies in the ability to compress the haulage power of a complicated and costly 90-ton Type "2" diesel into each and every axle of an 80-ton Bo-Bo electric locomotive ?

Yours faithfully,

L. IRVINE-BROWN

Tilston, Malpas, Cheshire

Introduction of Diesel Traction

February 1

SIR,—May I ask for a little more space in your columns to draw the attention of Mr. L. Irvine-Brown, whose letter is published in your January 29 issue, to my article in your issue of January 1, on diesel multiple-unit operation in the North Eastern Region. Not only did I give some examples of the remarkable increases in receipts, but I also said that this was accompanied by substantial operating economies (and I quoted figures). He may take it that where traffic potential exists an increase of over 30 per cent in receipts and a drop of at least 30 per cent in operating costs will follow the replacement of steam by diesel multiple-unit trains.

Yours faithfully,

F. L. HICK
Assistant Operating Officer

British Railways, North Eastern Region, York

Rescue from a Snowbound Train

January 27

SIR,—I draw attention to an incorrect statement on page 118 of your January 22 issue in the paragraph "Lines Blocked by Snow in Scotland." The rescue of the passengers in the stranded diesel train at Newmachar was effected by members of my own staff by means of a relief train which could only approach to quarter-of-a-mile from the stranded train because of 10 ft. drifts. There were actually 57 passengers taken off the train (not 35 as stated) under the worst blizzard conditions in this area for many years.

Though we made contact with the helicopter services, these could not have operated in the prevailing weather conditions and, furthermore, would have had to carry out the rescue in daylight, whereas we were able to have all the passengers in Aberdeen (about 12 miles from Newmachar) before daylight.

I feel that in fairness to the railwaymen who carried out the rescue operation, readers should be made aware of the facts and not left with hearsay reports such as you printed.

Yours faithfully,

W. L. RIGBY
District Engineer, Aberdeen

British Railways, Scottish Region,
80, Guild Street, Aberdeen

THE SCRAP HEAP

Railway Sights and Sounds

The Transport Museum at Nuremberg has installed sound film equipment which reproduces the visual and sound impressions obtained on various European railways. The equipment was constructed and installed by the German Federal, French National, and Swiss Federal Railways, with material supplied by Zeiss Ikon. The device was shown at the Brussels Exhibition of 1958. It is the only one of its kind in Europe.

Salute to the Great Central

John Betjeman sends me a moving threnody on the express trains from Marylebone to Sheffield which have recently been withdrawn by British Railways as uneconomic. This line—the old Great Central—he salutes as the most luxurious, clean and courteous of all, still imbued with the high standards set by Sir Sam Fay, its General Manager half-a-century ago. The spacious atmosphere of the Great Central is literally reflected in Brackley Station. It has a goldfish pond with lilies.—"*Peterborough*" in "*The Daily Telegraph.*"

Service to a Centenarian

The District Operating Superintendent, Darlington, British Railways, North Eastern Region, has received a letter thanking all concerned for the arrangements made for a centenarian lady when she travelled between Saltburn and Glasgow. She was accommodated in the 10.42 a.m. "North Briton" from Darlington, and arrangements were made with Glasgow Queen Street Station for special attention on her arrival. The letter reads: "I would like to thank you for all the kindness and help we received at Darlington. We had the most comfortable journey, thanks to you. . . . It was a most fitting celebration for her 100th year!"—*From "British Railways Magazine," North Eastern Region edition.*

The Doric Arch at Euston

The future of the Doric arch at Euston has not yet been decided. The site is needed for reconstruction of the terminus by British Railways, London Midland Region. The London County Council has been informed that the cost of re-erection would be £180,000. A report to the Council states that the L.C.C. Town Planning Committee has no objection to the removal of the arch and its attendant lodges provided they are re-erected "in an appropriate dignified and open setting." The report has been accepted. The Council has agreed to a recommendation by the Committee that engineering and architectural consultants be employed to advise on the British Transport Commission proposals for rebuilding the station. Euston Square Station, as it was known in its early days, was designed for the London & Birmingham Railway Company by Robert Stephenson, and the architectural work was supervised by Philip Hardwick. It was opened on July 20, 1837. The Doric arch was completed in May, 1838, to a design by Hardwick, and is substantially in its original condition. The word "Euston" in gold letters was inscribed in 1870.

Victorian Railway Architecture

The Euston Great Hall is the fourth of a series of first-rate Victorian buildings in London which have been threatened in the last few years; the others are the Imperial Institute, Norman Shaw's house in Queen's Gate, and the Coal Exchange. In each case the excuse has been made that the retention of the structure would prejudice the planned re-development of the site. Could not the Euston re-building scheme be reconsidered with a view to retaining the Great Hall if at all possible? Could not some imaginative use be made of it? What of a "Railway Centre," with permanent and changing exhibitions, of both topical and historical interest? —*From a letter to "The Manchester Guardian."*

L.T.E. Recruiting Posters

A London Transport bus conductor, Miss Doris Harbour, sat as the subject of an L.T.E. poster published in the course of the current recruitment drive for bus crews. She is attached to New Cross Garage and works on Route 21. Miss Harbour has stated that she prefers shift work, with "off-peak" leisure hours, to office hours, and likes meeting people through her work. The busman in a companion poster calling for drivers is Driver Ernest Browning, of Cricklewood Garage. London Transport Executive has vacancies for 3,000 drivers and conductors. During the past year nearly 1,000 bus drivers and conductors who had left to take up other work have rejoined L.T.E. bus services.

One of two recent L.T.E. recruiting posters for bus crews

Britain's Railway Queen at Darlington

Driver Jim Slee and the Railway Queen at the controls of the first Darlington-built diesel-electric locomotive (see references in last week's issue)

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

New Design for Fruit Wagons

Extensive tests under practical conditions have been carried out to determine whether the wooden racks in fruit wagons could be replaced by metal ones. The tests resulted in a type of tubular rack being adopted and the latter was incorporated in the 1,000 " OR " and 500 " OZR " wagons built by Dorman Long (Africa) Limited and placed in service during 1958. The number and the spacing of the racks have also been modified to allow of fuller advantage being taken of carrying capacity. It is the intention to incorporate the tubular metal racks in all new fruit wagons to be ordered in future and consideration is being given to the replacement of wooden racks in existing wagons.

Experiments with the use of aluminium alloy sheeting for roof covering of fruit trucks proved very satisfactory, and as a result it was decided to fit the new type of roof covering on 1,000 wagons ordered for perishable traffic. The roofs are absolutely waterproof and complaints about damage by moisture have been eliminated. All future fruit wagons will be fitted with aluminium roofs.

INDIA

Concession for Export Promotion

To help in the drive to stimulate exports, the Railway Board has approved concessional freight rates for some more commodities from certain stations to specified ports. These commodities are electric motors, cotton and hair belting, grinding wheels, machine screws, motor-car hand tyre inflators, bare copper conductors (ACSR and AAC), ply-wood tea chests, and sheet glass. The concessional freight, which has already become effective, is given in the form of 50 per cent rebate on normal tariff rates by goods trains. Concessions have earlier been given in the case of a number of other commodities.

VICTORIA

Diesel Shunting Locomotive Delivery

The first of the Victorian Railways diesel-hydraulic shunting locomotives to be completed by the manufacturers was delivered during December. Tulloch Limited were the successful tenderers for the construction and supply of 25 of these 650-h.p. diesel-hydraulic shunters at a total cost of £850,000. The locomotives are similar to the German " V60 " design.

Albury–Melbourne Line Signalling

The first major signalling alteration to be undertaken on the standard-gauge line between Albury and Melbourne was completed at Bowser, 149 miles from Melbourne, during December. At Bowser, the standard-gauge track intersects the branch line to Bright in the Ovens Valley.

To establish the necessary safeguards for the rail grade crossing, the sidings at Bowser have been altered and the signalling equipment of broad-gauge trains extended and re-located in a new signal-box. When the standard-gauge line is operating, a control officer in Melbourne will set and secure the standard-gauge signals in the stop position and give a release to the signalman at Bowser to set the points for Bright line trains. After the train has passed and the branch-line points have been moved back for main-line operation, the signalman at Bowser will pull a pilot lever, thus preventing conflicting train movements on the standard-gauge and branch lines, and at the same time return the control of standard-gauge traffic to the officer in Melbourne.

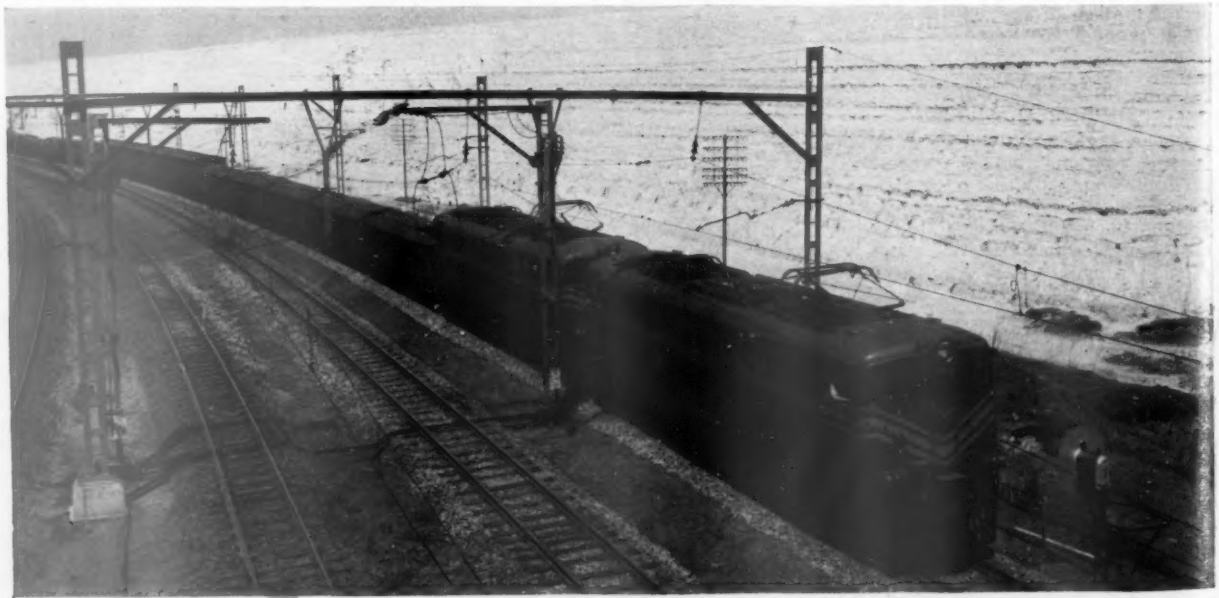
TASMANIA

Diesel Locomotive on Trial

The first main-line diesel locomotive built by Tulloch Limited has successfully completed trials on the Tasmanian Government Railways North West line. It is the first of two 0-6-0 diesel-hydraulic locomotives ordered by the T.G.R. for use on light track in the North Western districts of Tasmania.

It is powered with an eight-cylinder turbo-charged Rolls-Royce diesel engine developing 335 h.p. coupled through cardan shafts to a Krupp 2W1.L1.15 hydraulic transmission incorporating a two-speed forward and reserve gearbox.

Electric Traction on South African Railways



Class " 5E " 3,000-V. 2,000-h.p. electric locomotives, built by the English Electric Co. Ltd., double heading a 2,000-ton coal train near Booyens, Johannesburg

Another cardan shaft from the transmission connects a Krupp KS 320 final-drive unit mounted on the centre axle which is coupled by side rods to the outer axles.

Total weight of the locomotive is 27 tons and the centre driving wheels are flangeless to permit operation over sharp curves. Top designed speed is 30 m.p.h. and the maximum starting tractive effort at 30 per cent adhesion is 18,500 lb.

These are the first diesel-hydraulic locomotives to be delivered to the T.G.R. and are the first Australian-designed and built diesel locomotives on that system. Introduction of these locomotives, numbered W1 and W2, will complete the diesel conversion programme of the North West Coast lines and will eliminate long hauls of coal from East Coast mines.

CHINA

Trunk Line Construction

Construction is proceeding of a new line, about 350 miles long, linking Neikiang on the Chungking–Chengtu Railway with Kunming, the capital of Yunnan province, which is itself linked by metre-gauge railway with the sea at Haiphong. The completion of this line will be the last link in a North-South trunk route. Some 75 miles of the Northern part of this line are open for freight traffic.

Peking-Jehol Line Relocated

Fifteen years ago a railway was completed running from Peking north—eastwards to Jehol and on to a junction with the Manchurian railways about 100 miles from Mukden (Shenyang). This line was later closed, partly through war destruction, and partly because of the instability of the rock in the hill section. Work has been proceeding for some years on a new route on this section, and the line has now been re-opened. The new location provides better grades as well as a more stable road-bed. This line will relieve the main line which runs from Peking to Shenyang *via* the coast, and is very heavily loaded.

DENMARK

New Refreshment Cars

Because of the shortness of journeys and of the refreshment facilities in train ferries, the need for restaurant cars in Denmark is limited. The State Railways have placed in service converted corridor coaches which include a small kitchen, bar counter, and accommodation for 21 passengers taking refreshments at table, and for seven at the bar in a compartment with fixed tables and movable seats. The ceiling, sides, floor, and tables in the refreshment compartment, are covered with plastic material in several colours. The woodwork is teak, treated with oil, and much use is made of stainless steel. Lighting is fluorescent. Propane gas is used in the kitchen. The coaches are fitted with loudspeakers.

WESTERN GERMANY

Pallet Pool

The German Pallet Pool, inaugurated on January 1, offers transport undertakings, forwarding agents and others concerned with warehousing and transport pallets 1,200 mm. x 800 mm. (3 ft. 10 in. x 2 ft. 7½ in.). The pool is the result of three years' negotiations. It provides for the free exchange of pallets between users, railways, and road hauliers to avoid empty journeys and to increase user. Adoption of dimensions of 800 x 1,200 mm. was considered a pre-requisite for a European pallet pool. The investment necessary for the purchase of pallets of uniform type is stated to be considerably less than the savings in labour and other costs.

Improvements to Passau Station

Work is in progress on reconstruction of the passenger building at Passau Hauptbahnhof, on the Austrian frontier, on the Nuremberg-Linz Vienna line. It includes a new ticket office.

BELGIUM

More Car/Sleeper Services

A feature of the 1960 summer passenger timetable will be the extension of car/sleeper services. The Ostend-Munich service will run twice weekly for three months instead of two, during the currency of the Passion Play at Oberammergau. The Ostend-Milan train will run once weekly throughout the whole of the season. A new car/sleeper train will run weekly between Amsterdam and Avignon, *via* Liege, Gouvy, and Luxembourg. The double-deck motorcar wagons, are to be provided by the French National Railways for traffic from and to the Netherlands and by the Belgian National for traffic from and to Bressoux (near Liege), where loading and unloading of Belgian traffic will take place. The new trains will give overnight service to and from Avignon.

Publications Received

Aluminium Busbar. By A. G. Thomas and P. J. H. Rata. London: Hutchinson & Co. (Publishers) Ltd., 178/202, Great Portland Street, W.1. 9¼ in. x 6¼ in. 105 pp. Illustrated. Price 21s. An obstacle to the widespread use of aluminium as a busbar material has been the lack of published information to enable designers and electrical contractors to exploit its advantages both technical and economic. This handbook is intended to fill the need for data on the design, construction, and installation of aluminium and aluminium-alloy busbar which is only about half the weight and cost of copper busbar of equal current-carrying capacity. Apart from the normal considerations of temperature-rise, voltage-drop and minimum spacing, there are separate chapters dealing fully with d.c. and a.c. applications, and formulae to enable the effects of weight, wind and ice, expansion forces, and electro-magnetic forces to be calculated, the latter including fault current conditions. Many clear curves and diagrams are used to explain such problems as skin effect and proximity effect, also showing the advantages of busbar screening for which purpose aluminium is stated to be the cheapest non-magnetic material which has high conductivity and low weight. Extensive use is made of tables to give the mechanical and electrical characteristics of certain standard rectangular and tubular busbar sections available, and other valuable data. Brief instructions are given on bending and forming, also methods of jointing including welding.

Swansea & Mumbles Railway Souvenirs.—To commemorate the closing of the Swansea & Mumbles Railway the South Wales Transport Co. Ltd. has issued a brochure, price 3s. 6d. In addition special souvenir tickets, produced for travel on the train during the last week of operation, are now available at 6d. each. Application should be made to the South Wales Transport Co. Ltd., 31, Russell Street, Swansea.

Lebensadern der Wirtschaft: Ein Bildwerk von Gütern auf Gleisen (*Arteries of the National Economy: Freight on the Rails*). Bonn: Published for the German Federal Railway by Athenäum Verlag. 11¾ in. x 8¼ in. 68 pp. No price stated.—Every year the German Federal Railway publishes a pictorial annual illustrating some phase of its many activities and their place in the life of the Federal Republic; this is the issue for 1959. A short general introduction by Dr. Johannes Kurze is followed by an article by Dr. Werner Waltz setting forth the theme of the work and the part played by the railway in handling the great variety of goods characteristic of industry today. Sixty pages of photographs portray many aspects of the subject, such as types of vehicle and their use in industrial sidings, dock lines and for general purposes, with container services and special road-rail transfer wagons. There are good pictures of complete trains carrying particular classes of goods, such as motorcars in double-tier wagons. The annual is well produced, as usual.

Summer Holidays in Great Britain & Ireland, 1960.—A 60-page illustrated programme of Thos. Cook & Son Ltd. and Dean & Dawson Limited contains the usual wide variety of suggestions for holidays in all parts of the British Isles. A notable feature is the series of inclusive tours to resorts in Scotland with travel by special trains arranged by the Creative Tourist Agents Conference (C.T.A.C.) of which Thos. Cook & Son Ltd. and Dean & Dawson Limited are members. These trains run between certain principal stations in the Midlands and North of England with departures on Saturdays during the season.

Evolution of the International Union of Railways

Modifications in organisation to increase efficiency. Additional facilities for study of new techniques and changes in the economic situation

ALTHOUGH there had been many associations and agreements between the European railway administrations before the war of 1914-18, the International Union of Railways was founded only in 1922, at the suggestion of an inter-Governmental conference in Genoa in May of that year.

The European Timetable Conference, since 1872, has facilitated agreements on international passenger schedules; it now operates on a parallel basis with the European Through Carriage Conference.

In 1921 the International Wagon Union and the International Carriage & Van Union were established to apply multilateral regulations covering the exchange of rolling stock (R.I.V. and R.I.C.).

Objects of Founding U.I.C.

The statutes of the new Union laid down that its object was to "ensure the standardisation and improvement of the equipment and operating methods of the railways with a view to international traffic." The founders had in mind a continuous network, composed of the largest railways. For admission to the U.I.C. an administration must "operate at least 1,000 km. (621 miles) of standard or broad gauge track, situated in Europe or in communication by rail with the lines of the Union." These regulations were extended subsequently to admit all administrations "whose membership is of sufficient importance" from the point of view of the U.I.C. From the beginning, a constant desire has been evident in the statutes to respect the rights and views of members, for which means was afforded by the General Assembly. The number of votes to which member administrations were entitled was determined on a tapering kilometric scale, so as to increase the relative influence of the smaller undertakings.

The Board of Management was composed, in 1922, of 13 members, but the railways of only 27 countries were represented in the Union. Today there are 50 member administrations, including British Railways, London Transport Executive, Coras Iompair Eireann, the Canadian National Railways, railways in North Africa, Ethiopia, the Belgian Congo, the Near East, India, Japan, Taiwan (Formosa), Mexico, the International Sleeping Car Company, the German Sleeping & Dining Car Company, the International Railway-owned Company for Refrigerated Transport (Interfrigo), and the Zeeland Steamship Company, besides the major railways on the Continent of Europe, except those of U.S.S.R. To ensure efficiency the Board of Management was first accorded authority to act on behalf of the General Assembly. The various higher authorities were empowered to make, without the necessity for unanimity, but on a substantial majority vote, decisions binding on all members. The composition of the present Board of Management is Belgium, Czechoslovakia, France, the German Federal Republic (German Federal Railway), the German Democratic Republic (German State Railway), Great Britain, Italy, the Netherlands, Poland, Spain, Sweden and Switzerland.

From the foundation of the Union until the outbreak of war in 1939, the Governments of the countries concerned showed an increasing interest in international co-operation between railways. A Communications & Transport Consultative Commission, for example, was instituted within the League of Nations, and performed some useful work in furthering international transport. On the whole, however, the U.I.C. between the wars was left free to answer the technical problems arising from the growth of international transport. It did not, as is pointed out in a recent study by Monsieur J. Tuja, Secretary General of the U.I.C., attack the difficulties, largely economic, which were later to jeopardise the position of the railways in the sphere of transport.

Post-war Rehabilitation

To deal with the destruction of railway material and disruption of services after the war of 1939-45, the Governments of the Allied Powers set up the European Central Inland Transport Organisation (E.C.I.T.O.). The work performed by E.C.I.T.O. included a census of wagons, to identify ownership and return to owning administrations, also assistance in organising a permanent numerical allocation of wagons.

There were, during and after the war, many amalgamations of railways, resulting, in a good many countries, in a single major undertaking owned or closely controlled by the State. International organisations had been or were being set up to co-ordinate other forms of transport, such as the International Air Transport Association (I.A.T.A.). Governments showed a tendency in favour of permanent organisations dealing with questions of transport. When creating in 1947 the Economic Commission for Europe, the United Nations Organisation included the Inland Transport Committee, which soon took the place of E.C.I.T.O. In 1948 the Organisation for European Economic Co-operation (O.E.E.C.), operating within restricted geographical limits, also created an Inland Transport Committee and, in 1953, the European Conference of Ministers of Transport was set up by 17 Governments.

Non-Governmental Organisations

The Inland Transport Committee encouraged the railways to amalgamate their international organisations. The railway administrations were responsible for establishing a set of agreements, making the U.I.C. generally responsible for co-ordinating and representing the European railways, without modifying the basic structure of the specialist organisations. This set of agreements is known as the 1951 Agreement. There is also the special agreement on the Passenger Timetable Conference.

The railways thus had at their disposal a central organisation to which they entrusted their interests and in respect of which the Government organisations could and in certain cases were even officially compelled—for example, in accordance with "Consultative Status B" of the United Nations—to reserve the exclusive representation of railways.

The fact that this responsibility of ensuring representation had been placed on the U.I.C. was to result in an extension of its authority. Within their own organisations the Governments were obliged to deal with future problems concerning rolling stock, development of traffic, and tariff policy, without restricting their activities to an endeavour to ensure an improvement in international traffic. The appearance of new organisations, such as the O.E.E.C. and the European Conference of Ministers of Transport, had the effect of localising the problems from the geographical aspect.

The U.I.C. found itself, therefore, engaged in a double task: (a) to enlarge the scope of its activities, and, without restricting them to questions connected with international traffic, to extend them also to the many problems of a similar nature offering the possibility of identical or similar solutions on the various railways; and (b) to be able to deal with questions of interest only to a limited number of its members, either because they concerned countries which are members of a particular Government Organisation, or because, by their very nature (e.g., certain problems affecting electrification), they were of interest only to certain countries.

Competition with Railways

The increase in road and air competition prompted the U.I.C. to extend its activities. Because the development of new techniques is essential for the survival of railways, the Office for Research & Experiments was founded at Utrecht in 1950. Reference to the many activities of this body has been made from time to time in this journal. The Union also created a General Studies Committee and established an Economic Section within the General Secretariat itself. Intensive competition from other means of transport caused the setting up of the Information Centre of the European Railways (C.I.C.E.), in Rome, to co-ordinate the information services of its members. The U.I.C. also embarked on a policy of close collaboration in the preparation and the application of tariffs. The Union included in its organisation the International Union of Railway Medical Services. To ensure the execution of the new decisions, an Office of Common Affairs was established.

In passenger traffic, it was as a result of the work carried out by the Union that all the European railways decided to reduce the number of classes of carriage to two as from the summer of 1956 and to submit proposals to the European Timetable Conference in regard to accelerated services. Studies were carried out of motorcoach competition and of co-operation with the air undertakings.

In goods traffic, the U.I.C. has had under examination for many years a group of questions on the use and routing of types of rolling stock, routing of goods trains, wagon turn-round, uniform marking of wagons, speeding up of frontier formalities, special wagons, private owners wagons, equipment of marshalling yards, transhipment depots, and door-to-door services. The Union has under examination two important problems: the standardisation of containers, and the creation of an international pallet pool.

As regards tariffs, the U.I.C. has carried out work on unification and simplification. In passenger traffic it has created a joint international tariff which incorporates the conditions contained in all ordinary international tariffs. It has introduced " European " tariffs covering the carriage of part-load traffic and express parcels. The railways, or most of them, have concluded an " Agreement in regard to tariff collaboration " designed to end competition between the administrations for international traffic. Studies are being made of the creation of a European transit tariff.

Standardisation of Rolling Stock

Much useful work has been carried out on standardisation of wagons, interchangeability of spare parts, braking, and comfort of passenger coaches. The Union has now embarked on a study of standardisation of passenger stock. The work carried out before the war on the adoption of automatic couplings has been resumed.

As regards motive power, standard rules have been drawn up governing electric traction motors, and the technical conditions covering the acceptance of diesel engines, and provisions designed to enable locomotives or electric and diesel motor coaches to be used on common services. It has also drawn up specifications covering the various parts used in the construction of locomotives, multiple-unit stock, and railcars, technical conditions in regard to through working, visual and audible signals, and loading gauges.

In civil engineering and allied spheres, the Union has carried out detailed studies on track wear and the reaction of the track to the passage of trains, equipment of marshalling yards, standardised signalling systems, and automatic signals at level crossings.

Efforts are currently being made to improve, by means of unification, the accountancy methods used by the railways, and their statistical methods, and costing. For the last two years the programme of work has included study of mechanised accounting methods and mechanical data processing.

In 1951 the U.I.C. issued a complete programme of work, with the object of orientating the policy of the railways, in a memorandum entitled, " The Position of the European Railways." Since then the Union has tried to make clear its position in regard to problems concerning the obligations imposed on the railways, their competitive position, their relations with the Governments, and the possibilities at their disposal of investing capital. It also carried out studies of the transport economy and the repercussion of general economic developments on the latter. It also deals to an increasing extent with problems concerning the organisation of the railways, conditions of employment, training, and productivity of railway staff, and railway films.

The International Documentation Bureau (B.D.C.), which was created in 1950, publishes a monthly *Documentation Bulletin* on matters and problems affecting railways. A general dictionary of railway terms was recently published.

A different aspect of the work of the U.I.C. is that represented by its arrangements of " limited application," which concern only a limited number of member administrations. Among them are the steps taken to build up a European fleet of rolling stock and, in particular, goods wagons. From a technical point of view, all the details of the standard goods wagons have been finalised. Without waiting until the renewal of the stock makes it possible generally to introduce these types of wagon, 10 railways formed a pool of wagons, the Europe pool, which has effected considerable economies. These arrangements were completed in the financial sphere by the creation of the Eurofima Company to facilitate the provision of capital for motive power and rolling stock. This company, of which 16 administrations are members, was created by inter-Governmental agreement. Eleven railways propose, in co-operation with the Austrian Government, to create in Vienna a climatisation station which will enable studies to be carried out on the heating of passenger coaches, insulation of refrigerator wagons, and so on.

Other specialised activities of the U.I.C. are the Interfrigo Company, the Union of European Railway Road Services, the Europabus series of international road passenger services managed by 14 railway administrations, and the " Trans Europe Express " (T.E.E.) diesel services. The Union has also carried out a study, with the collaboration of the European Conference of Ministers of Transport, on the financial situation of the railways. Several U.I.C. memoranda, supplementing the 1951 report on the position of the European railways, have been published to define the views of the railways on their financial recovery and the steps to be taken to ensure rational use of the various means of transport. In these memoranda the idea was introduced of the " normalisation of accounts " to ensure that railway accounts are set out in the same way as those of ordinary industrial and commercial undertakings.

To emphasise the European, and even international, character of the Union, two different sets of measures were adopted by the General Assembly in December, 1958, and are now in force. The first of these concerns: (*a*) the renewal of the chairmanship of the Union, under which the chairman administration is not re-eligible during the six years following its two-year term of office; (*b*) the number of vice-chairmen administrations, which have been increased to eight, and the division of the vice-chairmenships between railways of different size and different geographical situation; and (*c*) the renewal of the chairmen administrations of the committees. Further measures are concerned with extension of the use of languages.

Board of Management

When seeking to strengthen the basic organisation of the Union, the originators of the plan had principally in mind the necessity of ensuring adequate unity between the policies and activities of the various administrations. The Board of Management which, in its new role as " Board of Control," with a smaller, but very representative, number of members, holding frequent meetings, carries out this task by ensuring that the Union is effectively " managed." The place of the former Office of Common Affairs has been taken over by the Board of Management. The General Assembly now plays its part as a plenary assembly body kept advised of all the main activities of the Union, and is consulted in regard to major decisions.

The new provisions ensure that, apart from its normal procedure, the U.I.C., which is empowered to take decisions on general questions, plays a part as regards questions of restricted application, which is much more flexible than before. It can be summed up as: documentation, animation, co-ordination and control.

A series of new provisions is aimed at extending the external relations of the Union with existing organisations, and to ensure that the former is duly represented on the various bodies and also to enlarge its membership.

Efforts have been made to strengthen the existing association between the working methods adopted by the U.I.C. committees and those of the committees of experts of O.R.E. For this purpose provision has been made as between the U.I.C. and O.R.E. which enables the Board of Management of the Union to delegate to O.R.E. the preparation of the U.I.C. decisions in regard to certain technical problems and the carrying out of research shown to be necessary by the U.I.C. sub-committee concerned.

The object of a large number of new measures is to introduce greater flexibility into the internal organisation of the U.I.C. to accelerate procedure. Among them are increase in the number of committees, and spacing of committee or joint meetings throughout the year.

To facilitate the work of the senior railway officers, and to reduce the amount of travel, the managers of the most important departments of member railways are invited to attend " special meetings " of the committees during which essential decisions are taken or prepared and the programmes of work drawn up.

(*Continued on page* 161)

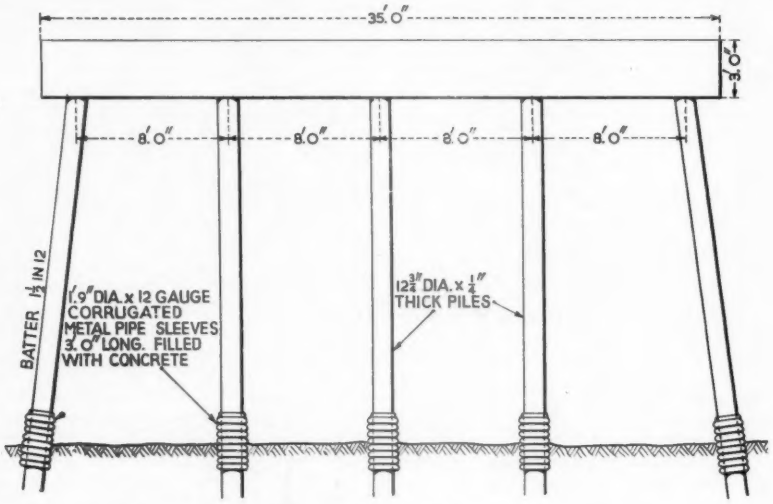
North American Road Overbridge Design

Claimed to be a durable and cheaply-maintained structure

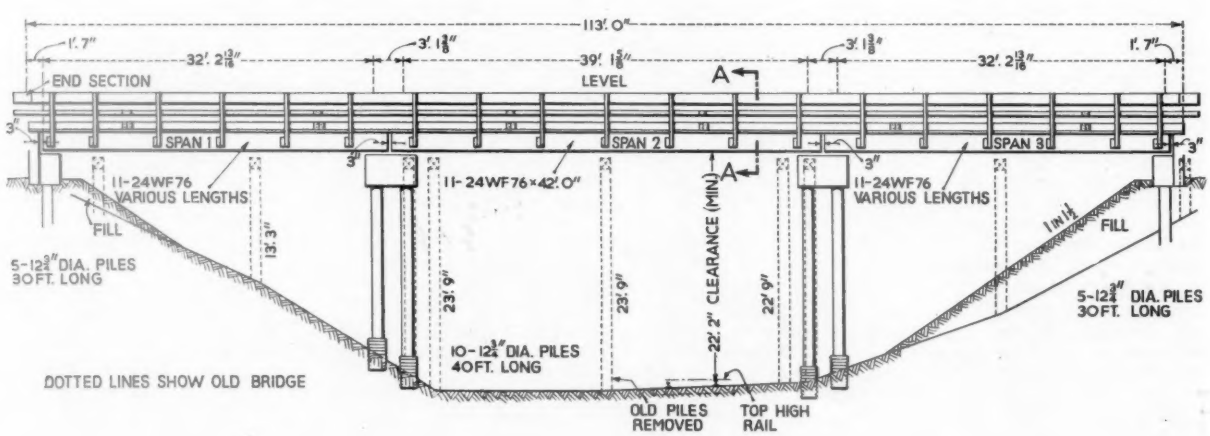
THE double-track main line of the subsidiary of the Canadian Pacific Railway, the Soo Line, passes under Silver Lake Road just to the east of the city of Minneapolis, in a rapidly developing area. The overbridge concerned has hitherto consisted of a timber-trestle structure with wooden plank decking 20 ft. wide, and steeply inclined approach embankments. It had become very costly to maintain and its piles were posted and needed replacement. Moreover, loads crossing it were limited to 10 tons, whereas the road traffic, now heavy and fast, serving the increasing population, demanded a much stronger, wider and more suitable bridge.

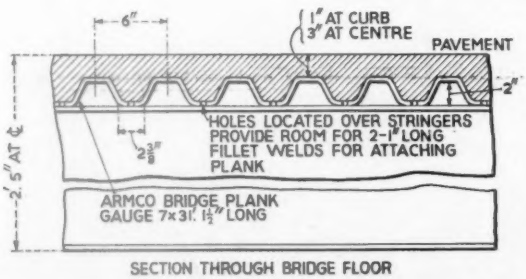
Consequently, the railway administration in consultation with the highway authority has designed and built a new overbridge for H-20 vehicle loading, 113 ft. long and 30 ft. wide between curbs. It has a 39 ft. central span flanked on each side by a 32 ft. approach span, all three spans on the level. The highway authority has built up the approach banks with easy gradients to suit the new bridge.

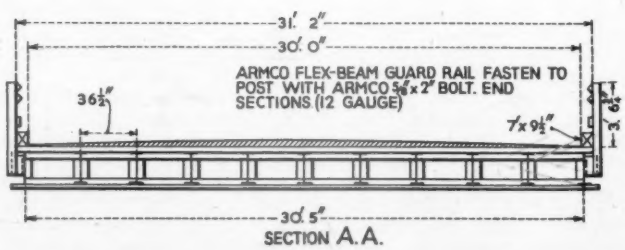
The superstructure of each of the three spans consists of eleven 24 WF 76 R.S.B. stringers spaced approximately 3 ft. apart carrying 7-gauge trapezoidal transverse Armco steel corrugated sheets 2 ft. wide and cut to 31 ft. 1½ in. lengths to form the decking. The corrugated sheets are secured to the R.S.Bs. by fillet welding, two 1-in. welds being made through holes in the troughs over each of the beams. The troughing of the sheets was filled with hot plant mix asphalt spread and compacted in layers. The asphalt was carried up to minimum depths of 3 in. in the centre of the 30 ft. roadway and 1 in. at the curbs. The guard or hand railings are of Armco Flex-Beam held by angle-posts 6 ft. 3 in. apart.



View along bridge centre-line of one of the Armco pipe pile-trestle bents







Above: side elevation of completed bridge. Below: sections through decking

The superstructure is supported on R.C. capping over piles; the concrete block abutments are each carried by five piles, and the pier caps are 3 ft. deep and 30 ft. long and each rests on ten piles. All the piles are Armco welded steel pipes 12¾ in. outside dia. and ¼ in. thick. Those under the abutments are 30 ft. long, and the two rows of five in each pier are 40 ft. in length driven into the soil about 20 ft. In both piers and abutments the outer piles were driven on a batter of 1½ in. to 1 ft., the remainder being vertical. After driving, the piles were filled with concrete having reinforcement tied in with that in the concrete caps. As a protection against corrosion the pier piles are surrounded by 12-gauge corrugated pipe sleeves at ground level 21 in. in dia. and 3 ft. long filled with concrete.

Apart from painting, maintenance is expected to be light and the cost of this bridge is stated to be about £14,130 or £4 2s. a sq. ft. of road surface. It is capable of carrying the heavy and fast vehicular traffic of today.

View of pier with corrugated metal collars at ground level filled with concrete to protect piling from corrosion

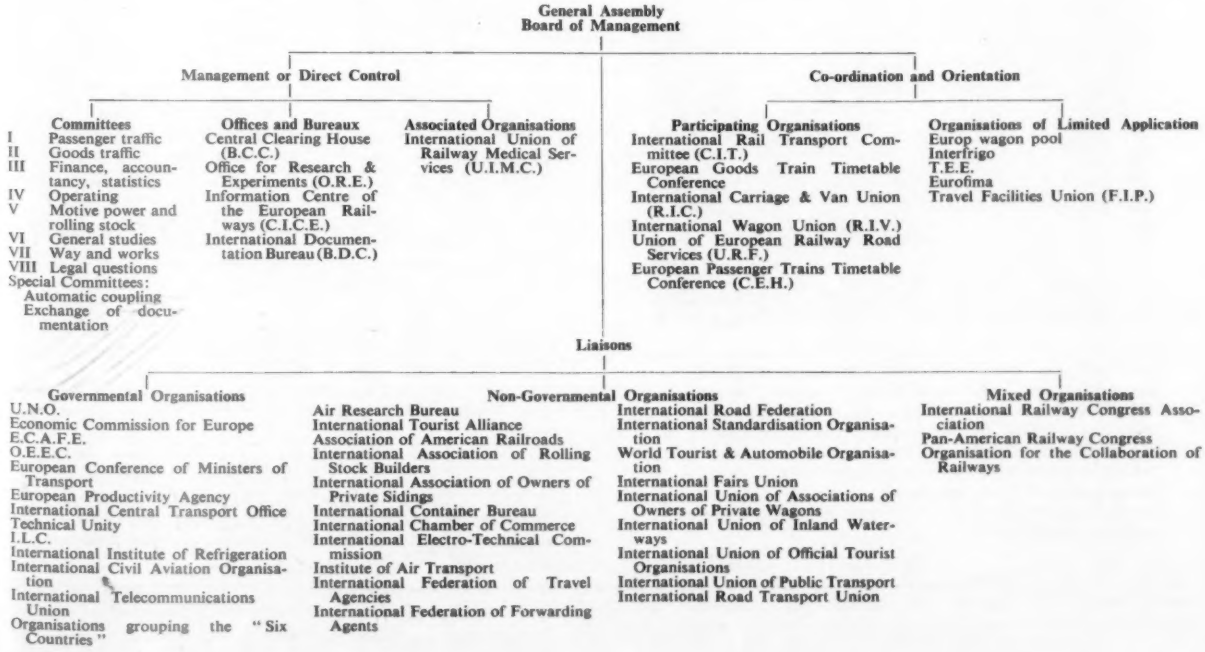
Evolution of the International Union of Railways

(*Concluded from page* 159)

The appointment of chairmen administrations of the committees as "managing administrations" enables them to submit proposals themselves in regard to the methods of resolving questions. Provision has been made for creation of a Managing Bureaux which would ensure, under the control of the chairman administration and in permanent liaison with the General Secretariat, the "management" of the committee concerned.

The new arrangements were brought into operation after the ordinary meeting of the General Assembly of the U.I.C. held in December, 1958.

The present organisation is shown in the diagram below.



Developing the Rail Travel Habit in the North Eastern Region

An outline of the measures which have been taken to re-capture and improve on prewar passenger traffic, stressing the importance of goodwill and of constant vigilance to public requirement

By C. Ayers, M.B.E.,
Passenger Assistant to Commercial Officer, York

IN late 1946, the last wail of the sirens had died away; but a shadow of unease still hung over British Railways. A token re-introduction of cheap travel facilities was made, but subsequent progress in this direction was gradual—and apparently grudging. For a number of reasons, our competitors, the ever-elastic road passenger services, were able to get off to a better postwar start and were soon making headway.

Aided by the gradual revival of facilities, the Region began in the early 1950's to induce the public to think about rail travel again. Increases in originating passenger journeys and receipts have been maintained each successive year in face of rapid development of road and air services and the tremendous increase in the number of motor-cars, motor-cycles and scooters, as shown below.

Year	Passenger Journeys		Passenger £000s	Receipts Index
	000s	Index		
1950	50,926	100	7,990	100
1	51,602	101·3	8,036	100·06
2	52,782	103·6	8,303	103·8
3	54,152	106·3	8,480	106
4	54,459	106·9	8,599	107·5
5	55,599	109·2	8,904	111·3
6	57,085	112·1	9,689	121·1
7	60,500*	119	10,300*	129
8	60,847	119·5	10,410	130

(* Adjusted by deduction of traffic estimated to have been diverted to rail by Suez Crisis and Provincial Bus Strike, 1957.)

It need hardly be pointed out what a tonic to staff morale this " return to the railways " has been.

The plan was to stimulate business and create interest in rail by:—

(i) offering bargain fares;

(ii) exploiting interest in special events, especially sporting events;

(iii) fostering party travel;

while

(iv) improving train services and rail facilities generally, particularly for longer-distance journeys;

and later by

(v) introduction of multiple-unit diesel services for " local " and some medium-distance journeys.

Special cheap-day return fares, competitive with the bus fares, were intro-

R 2041 (HD) X

BRITISH RAILWAYS

and

RIBBLE MOTOR SERVICES

COMBINED RAIL, ROAD & STEAMER EXCURSION

Lake Windermere and Morecambe

Every Wednesday
17th June to 26th August 1959

Our road tour by Ribble Motor Services coaches commencing at Wennington at 12.50 p.m. takes us through hilly countryside via Melling to the old grey town of Kendal, " The Southern Gateway to Lakeside," the most important town in Westmorland and an ancient borough steeped in history and antiquity. The mountain scenery of lakeland now lies before us as we pass through Windermere to Ambleside, Waterhead, where we join the British Railways steamer for a sail to Bowness on Windermere. Rejoining the coach at that point we continue our journey by the side of the lake from where magnificent views of lake and mountain scenery are obtained, travelling by way of Newby Bridge, Lindale, Levens Bridge and Carnforth to Morecambe.

OUTWARD

By Rail		By Road	
	a m		p m
HULL ... ... dep.	9† 0	WENNINGTON ... ... dep.	12 50
SELBY ... ... "	9†42	AMBLESIDE (Waterhead) ... ... arr.	3 0
HARROGATE ... ... "	9§35		
LEEDS (City) ... ... "	10 47	By Steamer	
BRADFORD (Forster Square) ... "	10A43	Immediately on arrival at Ambleside passengers join Steamer for sail to Bowness due to arrive at 3.35 p.m.	
SHIPLEY ... ... "	10A52		
BINGLEY ... ... "	11 9	By Road	
KEIGHLEY ... ... "	11 16		p m
SKIPTON ... ... "	11 38	BOWNESS on WINDERMERE ... ... dep.	4 30
	p m	MORECAMBE ... ... arr.	6 15
HELLIFIELD ... ... "	12 1		
Detrain at	p m		
WENNINGTON ... ... arr.	12 36		

RETURN

Passengers return same day by rail from Morecambe (Promenade) Station at 7.50 p.m. due to arrive Hellifield at 8.49 p.m., Skipton at 9.6 p.m., Keighley 9.26 p.m., Bingley 9.46 p.m., Shipley 9.54 p.m., Bradford (Forster Square) 10.6 p.m., Leeds (City) 9.54 p.m., Harrogate 10§42 p.m., Selby 11†23p.m. and Hull 12†16 a.m.

NOTES

†—Change at Leeds (City). §—Change at Leeds (Central) and make own way to Leeds (City), five minutes walk, on the outward journey, and vice versa on the return, depart Leeds (Central) 10.6 p.m. (Alternative on return Leeds City depart 10.50 p.m., Harrogate arrive 11.30 p.m.). A—Change at Skipton.

Combined Throughout Fare
(Second Class Rail and Steamer)

	Adult s d	Child s d		Adult s d	Child s d
HULL	25/-	12/6	SHIPLEY	18/-	9/-
SELBY	22/-	11/-	BINGLEY	18/-	9/-
HARROGATE	20/-	10/-	KEIGHLEY	17/6	8/9
LEEDS	19/-	9/6	SKIPTON	16/-	8/-
BRADFORD	18/6	9/3	HELLIFIELD	14/6	7/3

PASSENGERS ARE REQUESTED TO OBTAIN THEIR TICKETS IN ADVANCE

Further information will be supplied on application to the stations, agencies; the District Passenger Superintendent, British Railways, City Station, Leeds, Tel. No. 31711 (Extn. 269); the District Passenger Manager, British Railways, Hunts Bank, Manchester, Tel. No. BLAckfriars 3456 (Extn. 566), the District Traffic Superintendent, British Railways, George St., Hull, Tel. No. 31739 (Extn. 41); the District Traffic Superintendent, British Railways, York, Tel. No. 53022 (Extn. 2397), or to the Ribble Motor Services Ltd., Frenchwood Av., Preston, Tel. 4272.

NOTICE AS TO CONDITIONS

These tickets are issued subject to the Regulations and Conditions in the Commission's Publications and Notices applicable to British Railways.
LUGGAGE ALLOWANCES are as set out in the Conditions.

Published by British Railways (North Eastern Region) 5/59 Printed in Great Britain Jowett & Sowry Ltd., Leeds 1

Handbill advertising combined excursion facilities available in 1959

duced on many branches. They gradually spread to all parts of the Region, except the East Coast main line between York and Darlington. Here, the loading of trains is normally so heavy that there is no margin of accommodation for cheap-fare traffic. In no case has the introduction of special cheap-day fares failed to result in an overall increase in receipts from all categories of bookings over the sections concerned.

Restrictive conditions as to days and hours of availability were found to be unnecessary and were soon withdrawn.

With the progressive introduction of diesel services, it was found profitable also to offer special cheap-day single fares in many cases.

Day and half-day excursion fares were offered, not only for outings by special trains, but on specified ordinary trains where there was a margin of capacity (and so sometimes restricted to the less busy days of the week), for longer journeys than those catered for by the special cheap-day fares. Considerable care was taken to select suitable trains and to ensure that value was given for money. In the case of even half-day trips to the seaside, six hours' stay or more were usually provided.

The excursions were not confined to rail travel, but in some cases included coach and steamer trips and covered cost of meals and admission to places of interest. The lovely scenery of the Yorkshire coast, moors, and dales and of other parts of the Region was exploited and scenic excursions were run at attractive fares.

Drive for Furlough Traffic

Furlough excursion fares were quoted and special train services operated from the principal centres of H.M. Forces in the Region. Considerable numbers of personnel have remained after the war in the various camps, particularly in the Catterick and Barnard Castle areas. Strong competition for the weekend and 48-hr. leave traffic had to be faced from a number of "pirate" bus operators, who undercut the normal furlough fares: the furlough excursion fares competed successfully for the traffic. Special train arrangements were made for leave at Christmas and other Bank Holidays.

Apart from the revenue directly so earned, the soldier's family was attracted to rail during his period of service and it was hoped that he himself would continue to use the railways after his demobilisation.

Reduced-fare period-return tickets for certain mid-week journeys between towns in the North Eastern and London Midland Regions were introduced in 1953 and the facility was extended in 1954 and so was the forerunner of the national mid-week fares scheme beginning in the summer of 1955.

The growing popularity of the Blackpool and Morecambe Illuminations in September and October each year resulted in a tremendous influx of traffic by road to these resorts. At the instigation of the London Midland Region, rail services were revised and bargain weekend fares quoted, with considerable success.

At the suggestion of the Western Region, reduced-fare bookings have been offered by special trains run on Saturday nights, when spare coaching stock is available. The bookings are also available during the busy holiday period of July and August to relieve the week-end peak and develop additional business in competition with road coaches, particularly from the West Riding to Devon and Cornwall.

The North Eastern Region was glad to borrow from the Eastern Region the idea for meeting a trend for "Stay at Home" holidays by running "multiple" excursions at an attractive, inclusive price—"Five days, Five ways," and so on—during the holiday week to various resorts, returning to the home town each evening. The trains, which have been given appropriate names such as "The Northern Venturer", have proved popular.

Also for the "Stay at Home" holiday-makers, the well-tried series of seven-day Holiday Runabout Tickets at economy prices was re-issued and extended.

Events and Party Organisations

It had been the practice in prewar years for the District Passenger Managers to co-operate in the compilation of annual lists of events which would be useful in canvassing for passenger traffic.

These lists were overhauled, extended, re-issued and distributed to all stations and passenger representatives (formerly "canvassers") to assist development of traffic. Shows, exhibitions, and other events in London are always a great attraction.

Lists of party organisations—possible sources of party travel, such as Clubs and Institutes—had also been prepared by the District Offices before the war. These lists were thoroughly revised, extended and re-distributed. Responsibility for canvassing these organisations was specifically allotted to stationmasters, agents, and representatives.

Armed with the information provided in the Events Lists, District Officers were able to suggest special travel facilities and to canvass for these.

An attractive booklet encouraging party outings is printed each year and distributed to all party organisations. The booklet sets out the facilities available for inclusive outings by rail, road, and steamer, and suggest itineraries and advice for party organisers.

Special Occasions

Football matches and other sporting events provide a good field for development of revenue. The annual F.A. and R.L. football cup-finals at Wembley are always a great attraction, and the successes of the Newcastle United A.F.C. in the early '50's brought considerable traffic and receipts to rail. Tremendous crowds gathered at the stations to greet their returning heroes, and to see the special train with its headboard, "It's Wor's Agyen."

The goodwill of Education Authorities is sought in developing school outings, educational or otherwise, by rail, and many parties of scholars travel every year by special or ordinary trains.

The inauguration of the welfare state seemed to inspire firms to take a greater interest in their workers and a number give their staff an annual outing. Many have been induced to go by rail, year after year.

Club subscription cards had long been provided to enable parties to save a weekly sum for outings, or even for annual holiday journeys; these cards were again widely distributed to party organisers.

A postwar boom in pantomimes was used to secure parties to rail during the winter months. Theatre seats were sold with the rail excursion tickets.

The potential business from parties generally was found to be so great that it was decided in 1955 to increase the number of passenger commercial representatives in the field and to provide more cars for their use.

The most striking development of party business since the war has been the growth of women's organisations' outings. The North East is noted for its Women's Institutes, Townswomen's Guilds, and similar organisations. There is scarcely one such organisation whose Chairman and Secretary are not invited to a "get together" tea party and travel film show in B.T.C. hotels at least once a year.

Many of the women's institutes take such outings at least once a year and the itinerary illustrated indicates the ambitious nature of their programmes.

Members of these women's parties save a few shillings a week by means of the club-card system and spend several pounds on their annual day-outing, which takes them as far afield as Balmoral and Royal Deeside, the Kyles of Bute, Cheddar Gorge, Boulogne or Amsterdam. The programme issued for these outings is a much-prized souvenir: and the goodwill engendered toward railways cannot but result in more business.

Off-Peak Profits

The great joy of these women's outings to railway minds is that they are arranged on off-peak days of the week in the off-peak period of the Spring and early Summer. Some 82 special trains were so run from the North Eastern Region in 1958, earning rail receipts of £33,000.

In collaboration with other Regions, the longer-distance train services were gradually improved since 1950, in face of various setbacks.

Although the ideal has not yet been reached, sufficient has been done to stave off introduction of regular air services from the North East, even to London.

More restaurant car services, buffet cars, cafeteria cars and, in recent years, miniature buffets have been introduced on principal trains.

The facility to reserve seats on trains is being extended. It was soon discovered in postwar years that bus and coach companies were stealing a march on the railways by opening up on January 1 their bookings for summer services and tours. Special steps accordingly were taken to ensure that seats in the principal main-line and other holiday trains scheduled for the summer season could also be reserved at railway stations and agencies from January 1.

Attention was given to the growing popularity of holiday camps and "follow-up" letters were sent each year giving information about train services, fares, and so on, to visitors booking at principal camps.

A number of pocket-size train-service cards and folders for selected services and routes are printed and distributed free to the public for each timetable period as a convenience for businessmen, holiday-makers, and residential daily passengers.

Multiple-Unit Diesel Services

The success story of multiple-unit diesel services is so well known that there is no need to repeat it in detail. The diesels have proved a great attraction and are now in operation over almost all sections of the Region.

All these services, from the original Bradford - Leeds - Harrogate scheme initiated in 1954, to those of the present day have introduced the railways to a much wider public; both passenger journeys and receipts have risen considerably.

The following other factors which could contribute to the success of a passenger traffic development scheme were not overlooked:—

Publicity and Press Notice

The campaign has been splendidly backed up by effective advertising, publicity, and press notice. Handbills, posters, pamphlets newspaper advertising and "interest stories" in the press have all contributed to the effort. Films and film strips play an important part in the success of meetings with party organisers.

The education of our "internal public" has not been neglected. Staff magazines, news sheets, and so on have spread the gospel. Many of the staff have been able to see for themselves the movement "back to the railways."

District Officers have prepared wall-sheets detailing rail facilities for summer holidays. These sheets have been distributed to principal works and factories for exhibition on staff notice boards. In recent years, a small booklet containing similar information has received general distribution to the public.

Collaboration with Travel Agents

A tendency to treat even authorised ticket agents with suspicion and aloofness was converted to a more sensible attitude and these travel specialists were gradually made to feel that their efforts were appreciated, close contact being maintained through the railway District Officers.

All the rail agents are welcomed at least once a year by the Commercial Manager and conferences are held at which frank and lively discussion is encouraged.

The C.T.A.C. inclusive tours to Scotland, Ireland, and the Isle of Man, arranged in collaboration with all Regions of British Railways, have enabled us to enter effectively the growing field of all-in holidays.

The District Officers have provided all necessary intelligence about the activities of the coach and bus companies. There has been no hesitation in stating our case in the Traffic Commissioners' courts.

The net has been cast as wide as possible. Conferences, congresses and conventions are now almost as popular in this country as in the U.S.A. Harrogate and Scarborough are popular centres. Contact is made with appropriate officials at these resorts and with the conference secretaries. Rail travel arrangements are formulated and special trains run where warranted, and the flag of British Railways is shown generally, usually in the form of a travel inquiry bureau at the Conference hall.

V.I.P. Appreciation

Some of our biggest freight customers occasionally invite large numbers of clients or agents to an exhibition or to the opening of new works; both firms and visitors, including many V.I.P.'s, have shown appreciation of the special arrangements made by British Railways for journeys to and from these functions.

Ship launchings are often occasions to which parties of guests from all parts of the country are invited, and launch specials provide another opportunity for good advertisement by good service to some very influential passengers.

Special train arrangements are made for dispersal and assembly at end and beginning of term at the principal public schools; excursions are arranged for hikers and cycling clubs; car/sleeper trains are run in summer; special trains are run to cater for town and industrial holidays. The aim is to provide a service for all needs, not only to earn revenue from traffic but to develop interest in rail travel generally.

Contact Maintained

Withdrawal of passenger train services has not been allowed to mean that all interest has been lost in the areas concerned. Contact is maintained and feeder services by bus are arranged to and from the most convenient rail centre for excursion, party, and other trains.

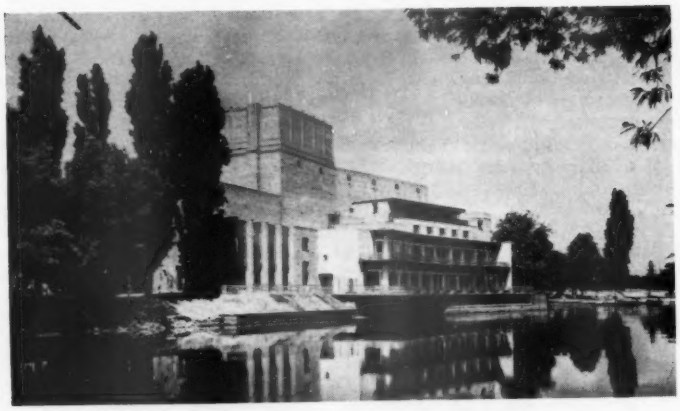
No matter how good a product is, its sales can always be improved by change. Women's outings, hikers' excursions, scenic tours, and the new diesel coaches, have all provided talking points from year to year.

The introduction last year of the day-line diesel ticket hit the headlines and won a showing on television programme.

The new inter-city multiple-unit diesel services planned for operation between Hull, Leeds, Manchester, and Liverpool and accelerated East Coast trains hauled by the new Deltic locomotives hold promise of yet more passenger traffic.

Women's Organisations

SIGHTSEEING DAY TOUR FROM YORK



The Shakespeare Country

by rail and motor coach

MONDAY 4th MAY 1959

TOUR INCLUDES:—

Rail journey to Birmingham, with morning coffee and lunch on train. Tour of the Shakespeare Country by private motor coach, through Kenilworth, Guy's Cliff, and Warwick to Stratford-on-Avon, where a stay of two hours is made. Return via Henley-in-Arden to rejoin train at Birmingham. Supper is served en route before arrival back at York at 11.5 pm.

Souvenir Programme

Souvenir programme produced for special excursion

RAILWAY NEWS SECTION

PERSONAL

Mr. J. Ratter, C.B.E., B.Sc., M.I.C.E., President-Elect of the International Union of Railways, who takes office next December, has been a Member of the British Transport Commission since October 1958. Mr. Ratter was educated at St. Peter's School, York, and at Durham University. He began his railway career in 1929, as a pupil of the late Mr. John Miller, then Engineer, North Eastern Area, L.N.E.R., and after holding several appointments with that company joined the London Passenger Transport Board in 1936, as an assistant in the Permanent Way Department. In 1938 he returned to the L.N.E.R. as Assistant District Engineer, Sheffield. Mr. Ratter served throughout the war with the Royal Engineers in France, Africa and Italy, also in the War Office. He became Deputy Director of Transportation, Central Mediterranean Forces, with the rank of Colonel, and with the responsibility of railway reconstruction in the Italian campaign. He was mentioned in despatches in 1942, awarded the O.B.E. and the Legion of Merit (U.S.A.) in 1944 and appointed C.B.E. in 1945. On demobilisation he re-joined the L.N.E.R., and was appointed District Engineer, Guide Bridge. In 1946 he became Permanent Way Assistant to the Engineer, King's Cross. In 1947, Mr. Ratter re-joined the L.P.T.B. as Civil Engineer (Maintenance) with responsibility for maintenance of all railway and tram permanent way, and all rail and road service properities of the Board. In 1951, he was appointed Chief Officer Engineering (Works), Railway Executive Headquarters. In October, 1953, under the interim railway re-organisation following the Transport Act, 1953, he was appointed Chief Officer (Civil Engineering), British Transport Commission, and became Technical Adviser, B.T.C., in January, 1955, and a Member of the Commission in October, 1958. Mr. Ratter is a Senior Vice-President of the U.I.C.

We regret to record the death on January 28, at the age of 71, of Mr. A. C. Hartley, C. B. E., B. Sc. (London), M. I. C. E., M.I.Mech.E., President of the Institution of Civil Engineers since November, and President of the Institution of Mechanical Engineers, 1951-52. Since his retirement, in December, 1950, as Chief Engineer, Anglo-Iranian Oil Co. Ltd., Mr. Hartley had been in private practice, and also a Consultant to Messrs. Rendel Palmer & Tritton. He was educated at Hymers College, Hull, and the University of London; and after further training, attended the Central Technical College (later the City & Guilds College), Imperial College of Science & Technology, where he was awarded the diploma of Associate of the City & Guilds of London Institute, and graduated with an Honours B.Sc. engineering degree in 1910. Between 1910-12, he was a pupil in the Office of the Chief Docks Engineer, Hull, North Eastern Railway, and afterwards served with Rose, Downs & Thompson Limited and the Limmer & Trinidad Lake Asphalt Co. Ltd. From 1916 to 1919 he held a commission in the R.F.C. and R.A.F.; he obtained his pilot's brevet, was promoted substantive Major, and was awarded the military O.B.E., being twice mentioned in dispatches. In 1919 he became a Partner in the firm of Maxted & Knott, Consulting Engineers. Mr. Hartley joined the Anglo-Iranian (then Anglo-Persian) Oil Co. Ltd., in 1924. He went to Persia in 1926 and again in 1931, to deputise for the Assistant General Manager (Technical); when in London he undertook the duties of Chief Engineer He was seconded to the Iraq Petroleum Co. Ltd. from 1932 to 1934 for the design and development of the Kirkuk to Mediterranean desert oil pipe-lines. He then returned to the Anglo-Iranian Oil Co. Ltd. and held the position of Chief Engineer until December 31, 1950, when he relinquished it to become Consultant to the company. He was elected a Fellow of the City & Guilds of London Institute in 1936. The Anglo-Iranian Co. Ltd. released him in 1940-41 to assist in the development and production of a stabilised automatic bomb sight, and from April, 1942, he was with the Pretoleum Division of the Ministry of Fuel & Power. From October, 1942, until the end of the war, he was, in addition, Technical Director of the Petroleum Warfare Department. He was awarded the C.B.E. in 1944, and the United States Medal of Freedom in 1946. Mr. Hartley was a Freeman of the City of London. He served on the Department of Scientific & Industrial Research Mechanical Engineering Research and Building Research Boards, and had been a member of the Mechanical Engineering Industry Standards Committee of the British Standards Institution since 1941.

Mr. J. Ratter

President-Elect of the International Union of Railways

Photo] [Elliott & Fry

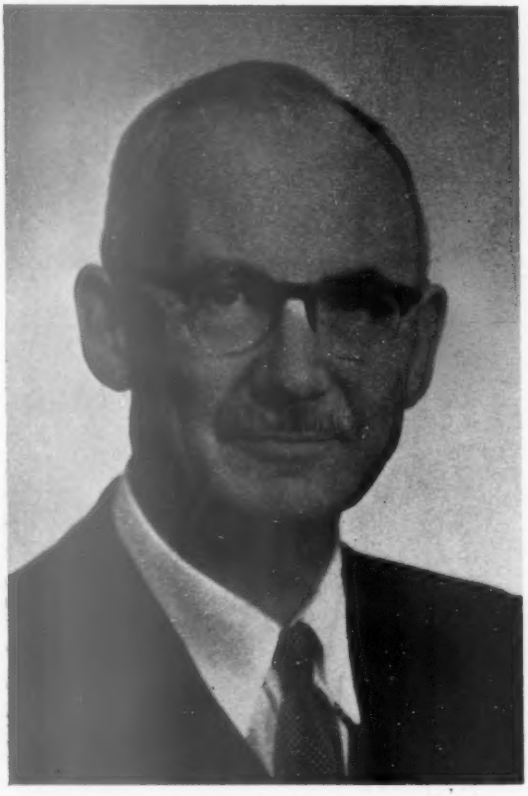
The late Mr. A. C. Hartley

President of the Institution of Civil Engineers

Mr. Harry Norman Edwards, M.I.Loco.E., Chairman & Managing Director, Metropolitan-Cammell Carriage & Wagon Co. Ltd., who, as recorded in our January 22 issue, has relinquished his appointment as Managing Director of the company from January 31, on reaching the normal retiring age, will remain Chairman of the Board of Directors. Mr. Edwards was educated at the Merchant Venturers Technical College, Bristol, and entered the Drawing Office of the Bristol Wagon & Carriage Works in 1910. On the outbreak of war in 1914 he enlisted and served in the 1/6th Gloucestershire Regiment and was later commissioned in the Machine Gun Corps (Heavy Branch), later Tank Corps, and was mentioned in despatches. Mr. Edwards rejoined Bristol Wagon Works, and, after their absorption by Cammell Laird & Company in 1923, he was transferred to the Midland Railway-Carriage & Wagon Company, Birmingham. In 1926 he was appointed Liaison Officer to Mr. Arthur S. Bailey, then Managing Director of the rolling stock subsidiary companies of Cammell Laird & Co. Ltd., with headquarters at Nottingham, and, in January, 1929, when these interests were merged with the Metropolitan Carriage Wagon & Finance Co. Ltd., he moved to the Saltley Head Office of the new organisation—Metropolitan-Cammell Carriage & Wagon Co. Ltd.—later becoming Commercial Assistant to the General Manager. Mr. Edwards was appointed Commercial Manager of the Company in 1936, Special Director in 1947, Assistant Managing Director with a seat on the Board in 1948 and Managing Director in 1954. He was appointed Chairman of the Board in July last year, in succession to the late Sir Archibald J. Boyd. During the 1939-45 war Mr. Edwards commanded "B" Company of the 37th Warwickshire Birmingham Battalion of the Home Guard. Mr. Edwards is also Chairman of Metropolitan-Cammell-Weymann Limited Metropolitan Railcars Limited, G. H. Sheffield & Co. (Engineers) Limited and of the Railway Carriage & Wagon Building Association and a Director of the Patent Shaft Steel Works Limited, Metropolitan-Cammell Carriage & Wagon Co. Africa (Pty.) Limited, Bus Bodies (S.A.) Limited, Union Carriage & Wagon Co. (Pty.) Limited and Zambesi Coachworks Limited.

Mr. D. J. C. Robertson, C.B.E., T.D., B.Sc., M.I.Mech.E., A.M.I.E.E., M.I.Loco.E., who, as recorded in our January 22 issue, has been appointed Managing Director of Metropolitan-Cammell Carriage & Wagon Co. Ltd., with effect from February 1, was educated in Aberdeenshire. He received his engineering training as an apprentice with William McKinnon & Co. Ltd., of Aberdeen, and later as a Student Apprentice with the British Thomson-Houston Co. Ltd., at Rugby. He attended Aberdeen University and Robert Gordon's Technical College, Aberdeen, gaining his B.Sc. degree in both mechanical and electrical engineering. Between 1932 and 1939, he held various mechanical and electrical engineering appointments with the Royal Ordnance Factories at Woolwich, the Crown Agents for the Colonies, Engineering Inspection Department, and the Air Ministry Works Directorate. He was commissioned in the Territorial Army in 1937 and, during 1939-45, served with the R.A.O.C. and R.E.M.E. Workshops in France, Egypt, Algeria and Italy, and from 1943, as a Colonel and Chief Electrical & Mechanical Engineer in command of various base workshops. He was twice mentioned in despatches and, in 1945, was awarded the C.B.E. Mr. Robertson joined the Metropolitan-Cammell Company in 1946 as Assistant to the Production General Manager and has been successively Works Manager at the company's Old Park Works, Production General Manager and General Manager prior to his present appointment as Managing Director. Mr. Robertson has been a Director of the Company since 1955 and is a Director also of Metropolitan-Cammell-Weymann Limited, G. H. Sheffield & Co. (Engineers) Ltd. and Metropolitan-Cammell Carriage & Wagon Co. Africa (Pty.) Limited, and a member of the Management Board of the Engineering & Allied Employers' Association in the Birmingham District Area.

Mr. F. H. Hodgson, M.I.Loco.E., Boiler Engineer, Mechanical Branch, New South Wales Government Railways, who, as recorded in our January 22 issue, has retired, completed 44 years' railway service. Mr. Hodgson served his apprenticeship in the Departmental Locomotive Workshops at Eveleigh. He was then posted to the Design Office, where he was later responsible for the calculations and the design of many locomotive details. He was appointed Boiler Engineer in 1933, and was responsible for the construction and maintenance of all locomotive and other boilers, and pressure vessels. He also produced an instruction handbook for the staff, which was issued in the form of Boiler Maintenance Regulations. In 1938, he undertook the task of scheduling for annual overhaul, in accordance with boiler requirements, all the locomotives through the three main Workshops. He introduced a successful system which has been followed, ever since.



Mr. H. N. Edwards
Managing Director, Metropolitan-Cammell Carriage & Wagon Co. Ltd., 1954-60

Mr. D. J. C. Robertson
Appointed Managing Director, Metropolitan-Cammell Carriage & Wagon Co. Ltd.

Mr. R. P. M. Wormal
Appointed Divisional Shipping Manager, Dover, Southern Region

Mr. R. P. M. Wormal, Assistant Divisional Shipping Manager, Dover, who, as recorded in our December 4 issue, has been appointed Divisional Shipping Manager, Dover, joined the Southern Railway, in 1947, in the Continental Department. After serving in London and Paris, he was selected as a Traffic Apprentice and trained in all branches of the Commercial, Operating and Marine Departments. Subsequently, Mr. Wormal was appointed to the Continental Department and, in 1956, he went to Dover as Assistant to the District Marine Manager. He was promoted, the following year, to be Assistant Divisional Shipping Manager, which position he now vacates.

Mr. K. W. Sims has been appointed Export Promotion Manager of C. C. Wakefield & Co. Ltd., Parent Company of the Castrol Oil Group.

Mr. F. W. Tomlinson, Managing Director of Pyrotenax Limited, Mr. J. M. Willey, Director & General Manager of Murex Welding Processes Limited, and Mr. P. S. Bryant, have been appointed to the Board of Murex Limited. Mr. Tomlinson has also been appointed to the Board of Murex Welding Processes Limited.

Reference was made in our January 29 issue to the formation of a new company, James Booth Aluminium Limited, which has been formed by the Delta Metal Co. Ltd. The management of the new company will remain in the hands of the Delta Group and the board of directors will comprise : Mr. W. E. Ogden, Chairman; Messrs. W. W. Dolton, W. J. Vaughton, A. F. Thomas and D. H. H. Clarke, from the Delta Group, and Messrs. D. A. Rhoades, T. J. Ready and A. H. Branstad from Kaiser Aluminium Corporation. Mr. W. J. Vaughton has been appointed Managing Director, and Mr. A. H. Branstad, Assistant Managing Director ; Sir Horace Clarke, the present Chairman of James Booth & Co. Ltd., has been invited to become Honorary President.

The senior executives of the Company will include: Mr. D. E. Bunce, Secretary, Special Director; Mr. G. Meredith, Special Director; Mr. C. Smith, Special Director; Mr. W. W. Adams, Chief Engineer; Mr. J. Crowther, Chief Metallurgist ; Mr. G. H. McKay, Assistant Secretary ; and Mr. F. J. Mills, Sales Manager.

Mr. Kenneth Andrews has been appointed Industrial Agent of the Canadian Pacific Railway, London. Mr. Charles Gow becomes Assistant Manager for Scotland.

Mr. J. E. M. Roberts, Director of Training & Education, British Transport Commission, has been elected a Member of Council of the Institute of Transport to fill the vacancy occasioned by the death of Mr. F. Grundy.

Mr. F. M. Wright, formerly District Commercial Officer, Traffic Manager's Office, Kings Cross, Eastern Region, British Railways, has been appointed Commercial Superintendent Great Northern. He succeeds Mr. J. Hancock who recently became Commercial Officer (Headquarters) Liverpool Street. Mr. Wright will continue to be located at Kings Cross.

The Late Mr. G. L. Darbyshire

The funeral of the late Mr. G. L. Darbyshire, former Chief Regional Officer, London Midland Region, British Railways, took place at St. Paul's Church, Langleybury, on January 27. The service was conducted by the Vicar, the Reverend R. W. Martin. In addition to family mourners the following were among those present:—

Mr. David Blee, General Manager, L.M. Region; A. J. Pearson, Assistant General Manager, L.M. Region; Mr. C. R. Hopkins, General Manager, Southern Region; Mr. James Ness, General Manager, Scottish Region; Mr. R. A. Riddle, former Vice-President, L.M.S.R. (also representing Sir William Stanier, former Chief Mechanical Engineer, L.M.S.R.); Mr. K. W. C. Grand, Member B.T.C. (also representing Sir John Benstead, Deputy Chairman, B.T.C.); S. E. Parkhouse, former Chief Operating Officer, B.T.C.; Mr. F. G. Hole, General Manager, B.T. Hotels & Catering Services.

Mr. H. Aidley, Regional Establishment & Staff Officer, L.M.Region (also representing Mr. J. R. Hammond, General Manager, Western Region and the Railways Staff Conference); Capt. J. D. Reed, Manager, Irish Shipping Services; Mr. T. H. Baker, Secretary, B.T. Hotels & Catering Services; Mr. George Morton, former Chief Accountant, L.M.S.R.; Mr. S. Williams, former Signal Engineer, L.M. Region; Mr. G. Royde Smith, former Secretary, L.M.S.R.; Mr. G. E. Graves Peirce, Regional Medical Officer, L.M. Region; Mr. L. W. Cox, Assistant General Manager (Admin.), L.M. Region; Mr. T. Fiske; Mr. L. A. Metcalf; Mr. E. S. Hunt.

Mr. G. J. Harris, Regional Accountant, L.M. Region; Mr. T. C. Byrom, District Passenger Manager, Liverpool; Mr. S. J. Symes, former Chief Stores Supt., L.M.S.R.; Mr. J. Eccles; Mr. F. Burfitt; Mr. H. G. N. Read; Mr. F. C. Howard, former Principal Assistant to General Manager, L.M.R.; Mr. W. P. Bradbury, former Chief Commercial Manager, L.M.R.

L.M.R. Appointments

London Midland Region, British Railways, announces the following appointments :

Mr. J. Stirk, as Assistant District Goods Manager, Liverpool.

Mr. L. A. Metcalf, as Traffic Assistant to Divisional Traffic Manager, London.

Mr. D. A. F. Quekett, as Assistant Planning Officer, General Manager's Office, Euston.

Mr. K. J. Davies, as Assistant Planning Officer, General Manager's Office, Euston.

Mr. T. E. Bell, as Assistant to Line Traffic Officer, Crewe.

Mr. F. McNaughton, as Assistant District Traffic Superintendent (Operating), Carlisle.

Mr. E. D. Henley, as Area Chemist, B.T.C. Research Department, Derby.

Mr. I. G. Wynne, as Goods Agent, Salford & Pendleton.

Miss H. M. Evans
Appointed Welfare Officer (Women), L.M. Region

Miss H. M. Evans, Welfare Supervisor, Scottish Region, British Railways, who, as recorded in our November 13 issue, has been appointed Welfare Officer (Women) London Midland Region, British Railways, has been engaged in railway welfare work since 1942, when she was transferred from the clerical staff, Divisional General Manager's Office, London & North Eastern Railway, to the Welfare Department. She became Assistant Welfare Supervisor, North Eastern Area, L.N.E.R., at York, in 1943, and later at Newcastle. Appointed Welfare Supervisor, Scottish Area, in 1946, Miss Evans became Assistant Welfare Supervisor, Scottish Region, on nationalisation of the railways in 1948. She has been Welfare Supervisor of the Scottish Region since 1956.

The late Brigadier Harold Lister Woodhouse, M.C., formerly R.E., whose death on January 6, was briefly recorded in our January 15 issue, was born in 1887, and was commissioned in July, 1906. In March, 1911, he was appointed as an Assistant Engineer on the Indian State Railways and from September, 1914, to October, 1922, was on military service. Promoted Executive Engineer in January, 1917, he held a variety of posts until in September, 1928, he was appointed Divisional Superintendent, North Western Railway. Colonel Woodhouse officiated as Deputy Chief Engineer from October, 1933, until confirmed in that appointment in 1935. Meanwhile he had been selected to officiate as Deputy Director, Indian Railway Board, in July, 1934, being confirmed 11 months later, In November, 1937, he was appointed Chief Engineer while continuing as Director of Civil Engineering, Railway Board, until 1938.

Mr. G. L. Knight has been appointed Assistant to the Director of the Scientific Instrument Manufacturers' Association of Great Britain.

Mr. Charles W. Hayward, Chairman of Firth Cleveland Limited, has been appointed to the board of the Solartron Electronic Group Limited, and has accepted the Chairmanship at the invitation of the other Directors. Mr. J. E. Bolton, formerly Chairman of the group, becomes Deputy-Chairman. Mr. Gordon Harries, Secretary of Firth Cleveland Limited, has also joined the board of Solartron Electronic Group Limited.

NEW EQUIPMENT AND PROCESSES

Cooling Air-flow Study

RESEARCH is being carried out continually by the International General Electric Company to find ways of increasing the output of traction equipment within the limitations imposed by locomotive size and design, and one aid to such work is a set of highly polished nozzles used to control air flow when testing locomotive cooling fans. Air flow must be studied because of its importance in ventilating the iron, copper, and insulation of electrical machines and for fan-blown oil and water radiators in diesel locomotives.

In the Railway Locomotive Motor & Generator Testing Facility of the General Electric Locomotive & Car Equipment Department, Erie, Pennsylvania, the accurate control of air flow with the test rig, partly shown in the accompanying illustration, is obtained by adjusting the number and size of nozzles in use. Thus any desired fan-operating conditions may be duplicated, for example, those required in the search for more efficient cooling equipment capable of dissipating the greater heat generated by engines and machines of progressively higher power ratings. By this means the designs of individual blowers and radiator fans can be assessed quickly to reduce the time required for development.

Stackers

THE " BT SV " range of stackers, designed and produced in Sweden, is now available in this country. The stackers are pedestrian-operated with an electro-hydraulic lift and have a capacity of 1,100 lb. or 2,200 lb. at a 24-in. load centre. Standard lift heights of 92, 108, 124 or 132 in. are available.

These trucks are suitable for operation in confined spaces as they have a turning radius of only 69 in. and an overall length of 63 in. including forks. It is understood that they can be used where floor loading is restricted. Unladen weight is less than 900 lb.

All main components are one-piece pressings of high tensile steel. The hydraulic unit is completely leak-proof, and incorporates special packing material. Lifting speed is 33 ft. per min. with the ½-ton model and 16 ft. per min. with the 1-ton model. Lowering speed is adjustable. Single, telescopic, and free lift masts can be supplied.

Further details can be obtained from the U.K. distributors, Rolatruc Limited, 30, Old Compton Street, London, W.1.

Heavy-duty Grease Pump

THE Hercules high-pressure pump for feeding heavy lubricants, if necessary, at high pressures, can also pump bitumastic materials such as Shell Cardium C or D Compound, or Mobil Dorcia 150, and can operate at a maximum working pressure of 15,000 lb. per sq. in. It is foot-operated and has a handwheel which is turned down once every 20–40 applications to ensure that the lubricant finds its way into the pressure chamber.

The rate of delivery may vary slightly with the type of grease; with a grease of penetration 250, it is 2·3 grams each stroke. The pump is suitable for lubrication of chassis and machine parts and through long pipe lines. Also it can be used with positive dividers, and as such may be regarded as an intermediate step between a centralised lubrication system and grease nipples. By inclusion of relief or other suitable valves it can be adapted to operate with single- and dual-line centralised lubrication systems. The weight is just under 50 lb. Two wheels at the base make it easy to move the pump from one application area to another.

Further details may be obtained from Centralube Limited, Eley Estate, Edmonton, London, N.18.

Counterblow Hammers

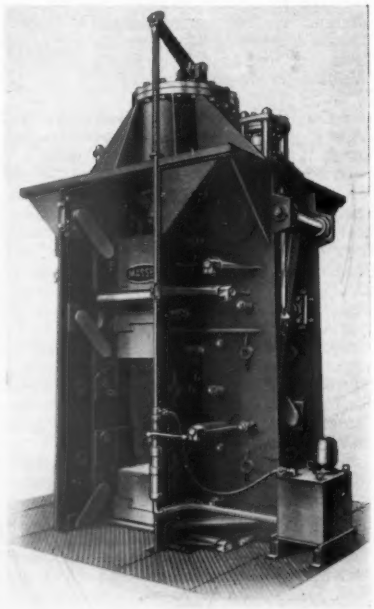
A UNIQUE feature of the completely revised Massey counterblow hammers for drop forgings made from cut-off pieces in central-impression dies, is the compensating gear to ensure equal loading of the two steel belts which synchronise the motion of the upper and lower tups. In this, hydraulically - interconnected compensating cells are incorporated in the pulley mountings at each side of the hammer and these have laminated stainless-steel bellows as sealing units for glandless expansion joints. Thus a considerable differential movement can be permitted in the belts before the couplings require manual adjustment, and offset loading on the tups, which may cause tilting in the slideways and premature failure of the belt, is avoided. An indicator shows at a glance the state of adjustment.

The counterblow hammer is complementary to the fixed-anvil hammer and has the advantages of requiring lighter foundations, causing less ground vibration, and avoiding the need to transport the relatively heavy anvil of the latter type. Massey counterblow hammers operate on steam or air at 6-7 atmospheres and are made in a range of ten sizes with blow energies from 43,500 to 290,000 ft.-lb. They have hydraulic servo control to minimise the effort required by the operator. The expansion valve gear, which reduces steam or air consumption, provides complete control over the force of blow and length of stroke and has stainless-steel piston rings. Overall control over the rate of lift to compensate for variations in total die weight and for disparity between the weights of the top and bottom dies is by a regulator which shrouds the appropriate inlet ports without impeding the outward flow of air or steam from the separate exhaust ports.

Further details may be obtained from B. & S. Massey Limited, Openshaw, Manchester, 11.

Low-pressure Spray Nozzles for Vitreous Enamel

EQUIPMENT for applying vitreous enamel at very low air pressures and which will make possible a definite economy in the enamel used has been developed as a result of co-operation between Ferro Enamels Limited and Alfred Bullows & Sons, Ltd. The new technique is claimed to offer other advantages



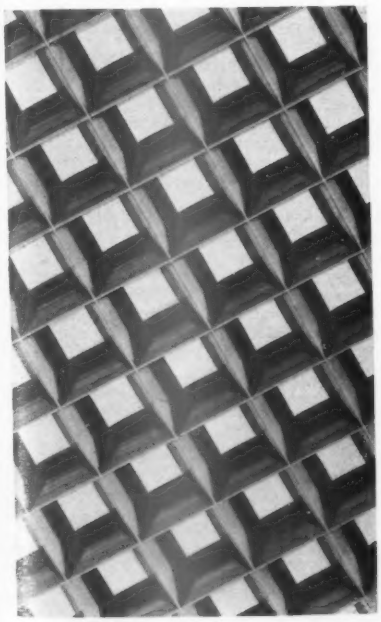
to the enameller. First, with a low pressure nozzle it is a simple matter to obtain a very fine coat, which, when fired, is far less brittle than a thick enamel coat would be. Secondly, the low-pressure technique requires far less skill than would be necessary for normal production methods.

Finally, when spraying hollow objects, such as spin-dryer bowls, " bounce " is a serious problem at normal pressures. Using the low pressure technique the job is claimed by the manufacturers to be easy.

Suitable nozzles have been developed for the purpose on the L1900 Bullows-Binks Model 19 and the L200 Model 2 spray guns. When using the L1900, best results are obtained with fluid pressures varying between 5 and 12 lb. per sq. in. and with an air pressure of 25 lb. per sq. in. using 63B x 66PH set-up. With the L200 a fluid pressure of 5 lb. per sq. in. and an air pressure varying from 25 to 50 lb. per sq. in. can be used, with the A39 x A5P set-up. The material for all tests was a standard cover coat enamel having a specific gravity of 1.34 and a fineness of 3½/200/50.

A parallel development resulting from this was that, while mottling in the vitreous enamel trade has generally been considered a slow process, a considerable increase in speed is claimed to be possible with the L200 spray gun. A fluid pressure of 5 lb. per sq. in. and air pressure of 8 lb. per sq. in. is used.

Further details may be obtained from Alfred Bullows & Sons Ltd., Long Street, Walsall, Staffs.



Light-distribution Louvre

PLANE Prismatic Louvre is a registered design of multi-cell light diffuser for indoor illumination. Large panels may be built from standard-size units measuring 9⅞ x 6⅜ x ⅜ in. of crystal-clear polystyrene injection moulded in the form of intersecting bars of inverted pyramid section. In the illustration part of one unit is shown about full size as seen from below.

Four ¼-in. lugs on the upper surface of the shorter edge of each unit enable butt joints to be used with great rigidity for building lightweight unsupported panels of up to 26½ x 48¼ in.; this size requires 20 units costing 8s. each. Support for larger panels is by a bar of clear Perspex, 1 x ⅜ in. section, fixed on edge down the long dimension. Panels with dimensions which are not exact multiples of the basic unit size can be made with the aid of inexpensive lugs attached to the cut outer edges. All lugs also enable the louvre to be made semi-recessed.

When triangular or L-shape panels are required to be assembled by the manufacturer an extra overall charge of 8s. 6d. is made. More complicated shapes are quoted for individually, and full-scale templates are required when ordering these.

Further details may be obtained from Courtney, Pope (Electrical) Limited, Amhurst Park Works, Tottenham, N.15.

Filler Cap with Breather

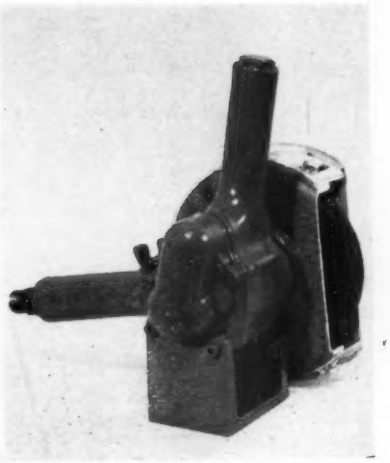
THE Aston breather-type filler cap is a specially adapted version of the Enots Standard Aston as used on diesel railcars and commercial road vehicles, with the addition of a breather plate inside the lid to make it suitable for use on hydraulic fluid tanks where a large flow and movement of oil requires special consideration. It is flange-fitting and available with alternative apertures of 2¼ in. or 2½ in. dia. The cap is hinged to prevent it becoming detached and mislaid.

Two finishes can be supplied—natural brass or polished chromium plate, and the cap may be fitted with one of a series of standard badges. The latter have a coloured background with silver lettering, examples being: HYD. OIL (with yellow background); LUB. OIL (with green background). Special badges such as customers' trademarks can be supplied and fitted to quantities of 200 or more caps. The filter shown placed in the aperture is a separate item which can be ordered additionally.

Further details may be obtained from Benton & Stone Limited, Aston Brook Street, Birmingham, 6.

Air-operated Bench Grinder

THE 3190M air-operated grinder for mounting on work benches has a 6-in. dia. 1-in. wide wheel, the free operating speed of which is 4,500 r.p.m. Power is provided by a vane-type motor with constant-speed governor which maintains the wheel at the most efficient cutting speed from no load to full load and eliminates



the possibility of overspeed when running free. A heavy valve spring controls a loose-fitting valve with neoprene O-ring leakproof seal. It is claimed by the manufacturer that the valve cannot become jammed by foreign matter.

The total height is 9 1/16 in. and the weight, including guard, 12 lb. The air inlet connection is ¼-in. dia. male B.S.P. thread. The drilled baseplate also makes the grinder particularly suitable for attaching to portable air compressors for the maintenance of tools such as the touching up of drill steels, breaker points, and so on, at railway and other civil engineering sites.

Further details may be obtained from the Consolidated Pneumatic Tool Co. Ltd., 232, Dawes Road, London, S.W.6.

Wall-covering Material

MURAL Texturide is a vinyl-coated fabric developed as a wall-covering which is simple to hang, washable, resistant to burns, stains and scuffing, and hard-wearing. Textures include, for example, some based on woven grass, rough silk, and heavy linen. Colours for the most part are subtle and muted, but the range also includes rich yellows, reds, greens, and blues.

Further details may be obtained from Arlington Plastics Development Limited, 4, Stratford Place, London, W.1.

Concrete Underlay

LUBRITHENE is a thermoplastic material developed for use in concrete laying as a separating membrane to minimise the danger of uncontrolled cracking in roads, runways, and so on, particularly during the early stages of setting when the raft is weakest. It acts as a solid lubricant between raft and base, and is claimed to reduce the coefficient of friction there to 0·25 or less. Comparative figures quoted by the manufacturer are: polythene 0·75 and paper 1·5.

The thickness of the material is only 0·003 in. so that continuous lengths can be positioned with relative ease. In multi-ply concrete laying, the labour and material cost economies effected by the use of Lubrithene should be considerable.

Another advantage claimed for the material is that it helps in the achievement of an improved surface smoothness.

Further details may be obtained from the manufacturer, British Cellophane Limited, Henrietta House, Henrietta Place, London, W.1.

Permanent Way Institution Meeting and Conversazione

Mr. John Ratter on progress of modernisation of British Railways

The 76th annual winter meeting of the Permanent Way Institution was held at the Institution of Civil Engineers, London, on January 30. The President, Mr. C. E. Dunton, Chief Civil Engineer, London Transport Executive, was in the chair. Members from all parts of the country were present. They included Messrs. J. Taylor Thompson, M. G. R. Smith and A. Dean, past Presidents, Sir Alan Quartermaine, Messrs. M. de Vos, A. Jacobs, J. Deenik, J. L. Hoorweg, J. L. A. Cuperus, and C. Trédé.

The Secretary, Mr. H. Janes, and Treasurer Mr. L. T. Starks, submitted a joint report on the activities of the Institution during the past year, which was the 75th anniversary. Some 200 meetings and visits had been held by home sections, and 326 new members had been enrolled.

Mr. A. Dean proposed the re-election of Mr. C. E. Dunton, Chief Civil Engineer, London Transport Executive, as President for the year 1960. Mr. Dunton had been active in visiting provincial sections and with a second year of office it was hoped he would be able to complete the intention of a visit to all. Mr. Dean then invested Mr. Dunton with the President's badge of office; this emblem had been prepared to mark the 75th anniversary of the formation of the Institution.

Office Bearers

The following were elected as Vice-Presidents:

For England, Mr. W. Young; Scotland, Mr. G. D. D. Greig; Wales, Mr. Glynne Davies; Ireland, Mr. J. J. Gaughran; India, Mr. G. Visvanathan; Rhodesia and Nyasaland, Lt.-Colonel H. B. Everard; Sudan, Sayed Abu Bakr Ali Rida; Malaya, Mr. J. L. Greer.

The present officers were re-elected.

Summer Meeting

After election of members of Council and various committees, particulars were given of the summer meeting and convention to be held in Belgium, with headquarters at Ostend, from May 27 to June 2, 1960. Through the courtesy of the Director General of the Belgian National Railways, Monsieur M. de Vos, and the Director, Monsieur A. Adam, visits will be paid to Antwerp, Zeebrugge, Brussels, the permanent way depot at Bascoup, and so on. One day will be spent in conjunction with the Netherlands Railways Way & Works Association in a visit to the Zeeland Delta Works and Middleburg.

At the conclusion of formal business a paper on "Belgium and the Belgian State Railways" was given by Monsieur A. Jacobs, Chief Engineer, Permanent Way Department, Belgian National Railways.

Conversazione

The eighth annual conversazione was held the same day at the headquarters of the British Transport Commission. The guest of honour was M. Marcel de Vos, Director General of the Belgian National Railways. Other guests included:

British Transport Commission, British Railways, and London Transport Executive: Messrs. A. Bull, K. W. C. Grand, J. L. Harrington, L. C. Hawkins, C. P. Hopkins, F. G. Maxwell, S. B. Taylor.

Brigadier C. A. Langley, Baron de Gerlache de Gomery, Messrs. A. Dury, A. Jacobs, J. L. Hoorweg, J. F. Deenik, J. L. Cuperus, C. M. Hannoyer, C. Trédé and M. Alias.

Mr. Dunton, welcoming the guests, said that the career of Monsieur de Vos had embraced all the aspects of railway engineering. He had been civil construction engineer, electrical engineer, telephone and telegraph engineer, besides General Manager of the Belgian Light Railways, General Manager of S.N.C.B., President of the International Railway Congress, and, finally, President of Eurofima.

Monsieur de Vos stressed the value of the work being performed by the Institution. He congratulated British Railways on the progress made in improving services and in technical developments.

Mr. Ratter said that he felt that 1960, at any rate for British Railways, was going to be a year of opportunity, and at the end of the year they would feel that it saw the turn of the tide. Electrification would be in the headlines. The new diesel Pullman services between London and Manchester and Bristol would be a very good counterpart to the "Trans Europ Express" diesel trains on the Continent. New diesel locomotives were going into service which were remarkable in design and performance. This year British Railways would be putting in twice as many long-welded rails as last year. The last few months had shown that goods traffic was once again increasing and revenues, both passenger and freight, were improving.

The Permanent Way Institution, he added could perhaps be described as a brotherhood of railwaymen, but extending all over the world. If there was to be a Channel Tunnel, British railwaymen would have to think in rather different terms of some of their railway problems.

COSTA RICA RAILWAY CO. LTD. RESULTS.—Mr. Robert Adeane, Chairman, Costa Rica Railway Co. Ltd., in his circulated statement for the year ended June 30, 1959, reports that gross revenue rose to a record level as a result of increased traffic in all departments, including passengers. In spite of economies, there was a marked increase in expenses primarily due to increased pay rates which became effective in September, 1958. Profits for the year amounted to £45,108, compared with £45,005 in 1957-58, after providing for all expenses and making the annual sinking fund appropriation.

Channel Islands Passenger Ship Launched

One-class ship to be delivered to the B.T.C. in September

The first of two new passenger ships for British Railways, Southern Region, was launched at Cowes on January 29. The ship was named the *Caesarea*, by Lady Coutanche, wife of the Bailiff of Jersey. It is being built by J. Samuel White & Co. Ltd., and is due for delivery next September.

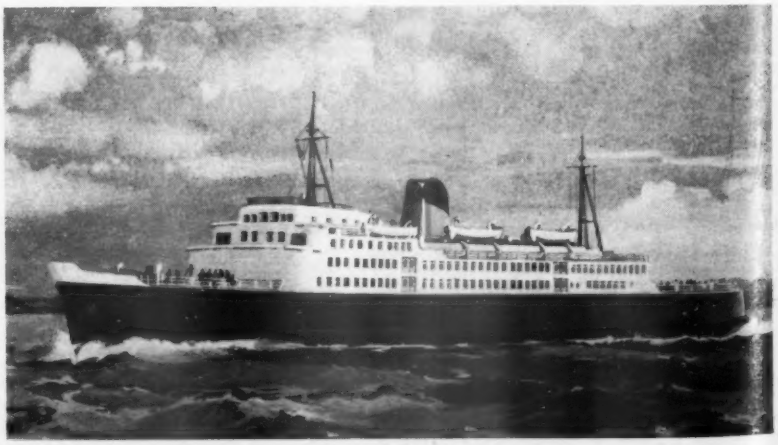
There will be two continuous decks, main and upper, with a promenade deck, a boat deck, and a navigating bridge deck above the upper deck. The lower deck is arranged forward and aft of the machinery spaces. The vessel will have a raked stem, a rounded stern, two tripod masts and a single funnel designed specially to ensure that fumes are swept clear of the decks in all weather conditions.

The balanced rudder aft and the bow rudder, fitted to enable the vessel to navigate stern first when entering port, will be operated by rotary vane type steering gears of A.E.G. manufacture; the power will be supplied by hydraulic pumps driven by electric motors. Control from the bridge in each case will be electric.

The propelling machinery will consist of two single-casing steam turbines. Each turbine will drive a three-blade Novoston alloy propeller through articulated locked train double reduction gearing. The turbines are of impulse type with ahead and astern elements incorporated on a single rotor shaft. Denny-Brown activated fin ship stabilisers will be installed and will eliminate rolling, thus providing greater comfort for the passengers.

Passenger Accommodation

Particular attention has been paid to catering equipment, which will be of electric type, for service to restaurant, self-service buffet, bars, and so on. The public rooms have been specially designed to provide modern décor and ease of maintenance. The internal decorations and furnishing is being carried out for the builders by Trollope &



Artist's impression of the "Caesarea" which is being built at Cowes for British Railways, Southern Region, Channel Islands service

Sons (London) Ltd., to designs prepared by the B.T.C. Architect, Dr. F. F. C. Curtis.

Accommodation will be one class only, and the vessels will have a Ministry of Transport certificate for 1,400 passengers. In addition to a number of private cabins, seating for all passengers carried will be provided.

At luncheon, the toast, the ship and her sponsor, was proposed by Sir James A. Milne, Chairman of J. Samuel White & Co. Ltd. Sir Philip Warter, Chairman, Southern Area Board, British Transport Commission, responded.

The following guests were also present: *British Transport Commission:* Sir David Watson, Member, International Services Sub-Commission; Messrs. G. W. Quick-Smith, Adviser, Special Projects; J. L. Harrington, Chief Shipping & International Services Officer; E. R. Dewdney, Shipping & Marine Engineering Officer; S. H. Cockett, Shipping & Marine Engineering Office.

British Railways, Southern Region: Messrs. J. E. Binks, D. L. T. Oppé, and J. MacNaughton Sidey, Members, Southern Area Board; C. P. Hopkins, General Manager, Southern Region; F. D. Y. Faulkner, Public Relations & Publicity Officer; R. E. Sinfield, Shipping & Continental Manager; R. R. M. Barr, Assistant Shipping & Continental Manager; J. P. Campbell, Superintendent Marine Engineer; H. J. Bourn, Continental Superintendent; Captain P. C. E. Dove, Marine Superintendent; Messrs. T. B. Webb, Catering Superintendent; W. G. Salmon, Divisional Shipping Manager, Southampton; D. Gibb, Agent, Jersey; Captain V. Newton, Master designate; and Mr. H. Hodder, Chief Engineer designate.

Electric Platform Trucks at Stockton

A feature of the North Eastern Region's modernised freight terminal at Stockton-on-Tees is the employment of seven fixed and three elevating platform trucks (Electricar-type T.U. 20). These replace the traditional hand barrows in conveying "smalls" in unit loads between the incoming railway wagons and the road delivery vehicles. Semi-live stillages measuring 5 ft. 3 in. x 4 ft. 2 in. are used in conjunction with the elevating platform models.

All the platform trucks have four-wheel steering and are powered by Crompton Parkinson batteries. The batteries are mounted on four small wheels riding on two small rails which are situated between driving control and loading platform.

Transferring battery from platform truck to charging stillage

To service the batteries, ten Westinghouse chargers have been erected and in front of these is a nest of stillage cradles which have been designed by the Region's Chief Mechanical & Electrical Engineer. These cradles correspond in height with the rails which carry the batteries on the platform trucks.

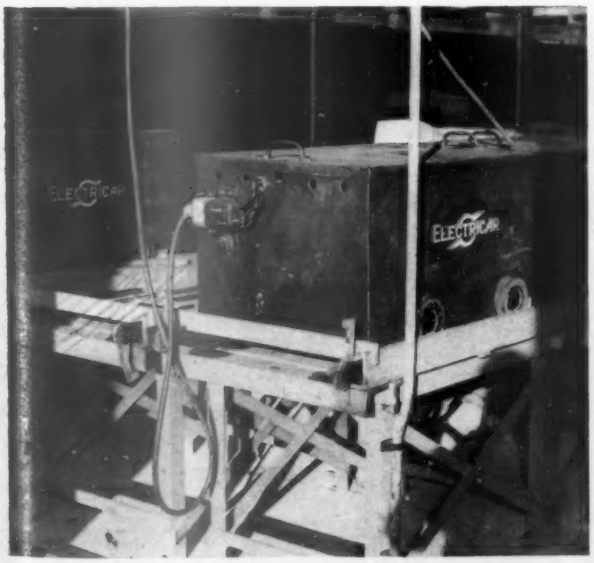
For charging purposes, the trucks are positioned alongside an empty stillage cradle from which two lug extension rails are connected with the rails on the truck. The battery is then pushed along the rails on to the stillage cradle and connected with the plug lead to the charging plant.

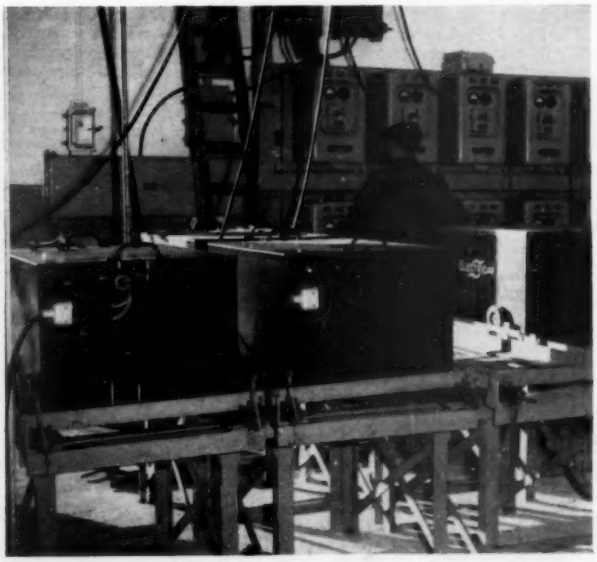
The truck is then moved alongside a stillage cradle on which there is a fully charged battery and the operation is reversed.

The whole of this operation is quite simple and can be carried out quickly by hand by the truck drivers.

A.B.C. Coupler & Engineering Co. Ltd. London Office.—The address of the London office of the A.B.C. Coupler & Engineering Co. Ltd. is 22, Headfort Place, S.W.1, and not 22, Headfort Street, as stated in error in our January 15 issue.

Collision Averted by Signalman.—A sleeper express from London was flagged to a halt just short of the scene of a collision between a diesel train and a goods train three miles south of Aberdeen, British Railways, Scottish Region, on January 21. The goods train,going north, had been halted at Cove when, just before 8 a.m., the two-car diesel train from Stonehaven to Aberdeen rounded a bend and ran into the guard's van. The driver's cabin on the diesel was shattered. The goods train was able to continue to Aberdeen within minutes, leaving behind the guard's van, which was locked with the diesel. The express, which was running an hour late, rounded the bend about 20 min. later, but was stopped by a signalman on watch on the line.





(Left): batteries on stillage cradles for charging. Note lug extensions, pendant on empty cradle rails, and upright on occupied cradle rails. (Right): rear view of the same batteries

Suite at Station Hotel, Aberdeen

First phase of improvements carried out: good use made for storage purposes of unwanted space

A new ballroom and banqueting suite has been opened at the Station Hotel, Aberdeen, by British Transport Hotels & Catering Services.

To carry out these improvements, part of the railway offices adjoining the hotel was acquired, and reconstruction to provide a room with an uninterrupted banqueting and dining area involved the removal of the cross walls forming three offices, and the erection of steel stanchions independent of the main walls. Heavy welded and plated girders were installed to carry two floors of existing offices over the new ballroom, and the foundations were strengthened to form the dining room.

Service and Storage Space

A false ceiling with lightweight wall linings conceals structural stanchions, ventilating trunking, and so on. This inner lining has been carried round at both ends of the room in a semi-circle. Double-glazed doors give access to the area thus formed for wine dispense, glass wash and store, battery for emergency lighting and loudspeaker equipment, and store for orchestral instruments. The amplifiers are in two positions flush with the ceiling.

On one side of the long wall, two former storerooms have been used to accommodate chairs and carpet when the room is required for dancing.

Modern Equipment

The original service rooms have been enlarged and remodelled, and new equipment, including stainless steel counters, hotplates, a mechanical dish washer, and coffee-making equipment, has been installed. Double flush sliding doors at the entrance to the ballroom from the service staircase reduce noise from the service rooms.

Ventilation is provided by thermostatically-controlled airducts, enabling fresh or warm air to be drawn in or extracted through circular baffles in the ceiling. These baffles carry electric-light fittings and brass chandeliers. Matching brackets are positioned on the wall, and emergency lighting is carried in wrought-iron lanterns which hang between the decorative columns.

The decorative finishes generally are in pastel shades. The ballroom throughout is finished white with French Roseaux wall paper panels. These are in shades of blue on white and incorporate a bamboo tree motif.

The room is carpeted with 400 yd. of "Flora" 27 in. Axminster body carpeting in peony design based on an original arrangement of peonies and lilac sprays on a black ground devised by the late Constance Spry for the manufacturer. Silk Shades to the 15 chandeliers are in mixed pink and lilac, and caps to the decorative columns are picked out in gold leaf.

All the chairs are ebonised with covering moquette in two shades of green, and the small coffee tables have black metal legs with tops in black and mauve pattern plastic. The same plastic sheeting is used on the wall linings to the lobbies of the wine dispense and glass wash, and to the walls of the service entry.

The curtains at both ends of the ballroom are in American glazed cotton in stripes of dark and light green, blue, charcoal and white, and the walls of the curved staircase from the reception room are painted in matching coloured stripes.

Pastel Shades Continued

The reception rooms are carpeted in pastel shades of pink, mauve, and lilac to a honeycomb design, and the wallpaper is white with a pale pink and rose design, with light grey tracery. The timber dado is painted in pale lilac and white, and recesses at either end of the large room are finished in deep mauve. The light fittings in these rooms are in brass, with pale pink and lilac silk shades, and Danish curtains have stripes of pink, green, lilac and white.

The Ladies' Powder Room has been remodelled, and here the decorative finish is in soft grey with a marina-blue carpet, and curtains of a Californian parakeet design. The gentlemen's toilet has also been remodelled.

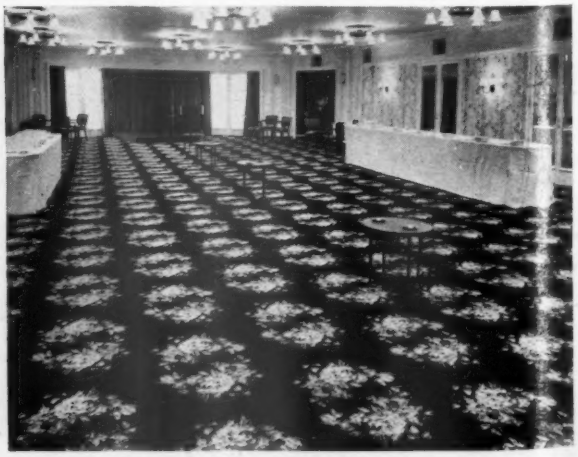
Designed by the Service

The entire work has been carried out under the direction of Mr. S. P. Smith, Chief Works Officer, British Transport Hotels & Catering Services. The architect was Mr. C. P. Johnson, L.R.I.B.A., Principal Assistant Architect, British Transport Hotels & Catering Services.

Future plans for the Station Hotel include the completion of the dining room with a new cocktail bar adjoining, and the re-siting of the reception office and telephones.

The following sub-contractors were concerned in the work:—

General Contractor ... Decorations ...	Alexander Hall & Son (Buildings) Ltd., Granitehill Road, Northfield, Aberdeen.
Steelwork	Redpath Brown & Co. Ltd., Structural Engineers, Edinburgh.
Steelwork Erection ...	George Bisset & Son Ltd., 24, Mearns Street, Aberdeen.
Ventilation	Brightside Heating & Engineering Co. Ltd., Edinburgh.
Cooking Equipment ...	Falkirk Iron Co. Ltd., Falkirk.
Flooring Service Areas	Rowen & Bowden Limited, 44 Union Terrace, Aberdeen. Matthew Thom & Co. Ltd., 22, Broomknell Street, Airdrie.
Strip Flooring Banqueting Room ...	A. M. MacDougall & Son Ltd., 3, Park Gardens, Glasgow.
Wall Tiling	Toffolo Jackson & Co. Ltd., 110, West Regent Street, Glasgow, C.12.
Plaster Columns ...	Peter Walker & Son (Edinburgh) Ltd., 56, Buccleuch Street, Edinburgh 8.
Wine Dispense Shutter	G. Brady & Co. Ltd., New Islington Works, Ancoates, Manchester 4.
Ironmongery	Alfred G. Roberts Limited, River House, 102/3, Upper Thames Street, London, E.C.4.
Light Fittings: Banqueting Room...	F. J. Pedley, Woodford Green, Essex.
Reception Rooms ...	Troughton & Young Limited, London.
Curtains: Banqueting Room...	Sandersons Fabrics Limited, Berners Street, London.
Reception Rooms ...	Danasco Limited, Golden Square, London.
Carpet: Banqueting Room...	Thomas Bond Worth & Sons, Severn Valley Mills, Stourport-on-Severn.
Reception Rooms ...	James Templeton & Sons Ltd., Glasgow.
Carpet & Curtain Making	James Archibald & Sons Ltd., Great Western Road, Aberdeen.
Tables: Banqueting Room...	F. A. Fitton & Son (1954) Ltd., Leeds.
Coffee Tables & Pedestals... ...	John I. Brooke Limited, 32, Denne Place, London, S.W.3.
Banqueting Chairs ...	Brentwood Chair Co. Ltd., London. Birch & Alpe Limited, High Wycombe.
Wallpaper: Ballroom	Cole Limited, Mortimer Street, London.
Reception Rooms...	John Line & Son Ltd., London.
Standard Lamp ...	Hiscock Appleby & Co. Ltd., London.
Grand Piano	Maple & Co. Ltd., London.



The new ballroom and banqueting room at the Station Hotel, Aberdeen, showing (left): parquet floor for dancing (right): Axminster carpet with design by Constance Spry

Chair Covering	...	Parker-Knoll Textiles Limited, High Wycombe.
Sliding Door Gears	...	John Smith & Co. Ltd., Shoe Lane, Aberdeen.
Plastic Sheeting	...	Holoplast Limited, 116, Victoria Street, London, S.W.1.
Sound Equipment	...	A. Ernst Buchan, 28, Belmont Street, Aberdeen.
Bevelled Glass	...	A. C. Yule & Son, Union Glen, Aberdeen.
Electrical Installation & Plumbing	...	J. J. L. Parkinson, 457, Union Street, Aberdeen.

Parliamentary Notes

Marylebone Station Site

Sir Wavell Wakefield (St. Marylebone—C.), in a debate he initiated on the motion for the adjournment on January 26, raised the subject of the future of Marylebone Station and its potentialities as a development site.

This gave the Joint Parliamentary Secretary to the Ministry of Transport, Mr. John Hay, an occasion to announce that the station was not to be closed but considerably developed, and that the B.T.C. had asked the Minister of Transport for powers to develop unused land property on a commercial basis.

Sir Wavell Wakefield said that this 44-acre site was on the edge of the Pink Zone, and proper regard for its development could ease traffic congestion in London. If Marylebone Station were closed for long-distance passenger express trains, there would be no inconvenience to the public. The goods and parcels traffic, involving about nine trains a day, could be handled on the suburban tracks or at the Neasden yard. Neasden or Finchley Road could be used for car/sleeper trains to and from Scotland.

As to suburban passenger traffic, analysis showed that the volume of traffic at eight principal London termini, arriving between 7 a.m. and 10 a.m. was nearly 300,000 passengers. Of that number, 5,000, or slightly fewer, arrived at Marylebone. It would probably be better to put the suburban line underground, at about the Bakerloo level with a deep-level exchange of passengers. The loss at Marylebone ran into many thousands of pounds: the area was an ideal development site.

Mr. Speaker : On this motion, the hon. Member is not entitled to ask for legislation.

Sir Wavell Wakefield said that the holding company might require legislation, but other things that he was about to suggest could be done without legislation.

After forming separate companies, with the Commission as a holding company (and he hoped that this could be done without legislation), the B.T.C. should be split into groups with hotels, ships, docks and so on, and private enterprise should be brought into partnership for their development. The Commission should form several property development companies: for Marylebone, for the Midlands, for the North, and so on.

Mr. John Hay, Joint Parliamentary Secretary to the Ministry of Transport, said the future of Marylebone Station was a matter of day-to-day management by the B.T.C. The B.T.C. had plans for the continued use of this area of ground that it occupied and owned at Marylebone. Its usefulness fell into two parts: the goods yard and the passenger station and its approaches. The goods yard was not completely disused. Although the Commission believed that it could be put to better use in future, its wish was to redevelop the whole of the goods yard, principally to provide a main parcels concentration depot. The project was being worked out by the London Midland Region, but the scheme had not yet been submitted to the Commission for approval.

Marylebone Passenger Station, Mr. Hay added, was not becoming disused. More exclusive reconstruction was planned by the Commission, though in this case the proposals had not yet gone so far ahead as those for the goods depot. An office block for the Commission was envisaged and also accommodation for the electrical engineering staff.

Marylebone had been a very busy station. It was less busy now, but the amount of traffic might well increase considerably. Because of electrification work on the Euston-Crewe-Liverpool line, some goods traffic would be diverted over the old Great Central Railway to and from Marylebone. Even after electrification of the Western Division main line Marylebone would still be used to capacity. It would deal with goods traffic, and with the increased suburban traffic around Aylesbury and Amersham, and the steadily increasing parcels traffic of the whole Region.

Development of Railway-Owned Land

The major question raised as to the more profitable use of land owned by the Commission posed the statutory question, which was that the Commission must not "construct, manufacture, or otherwise produce anything which is not required . . . for use for purposes of their undertaking." What the B.T.C. was able to do was to sell any land that it did not need—in which case it could receive only the ground rent and not a rack rent—and to develop for its own operational purposes what land it had. It could not develop by building upon it, and then let the buildings.

The Commission could not even build or let shops on station concourses or on the approach roads to station buildings. Neither could it carry out hybrid development, except in certain specific cases, such as the proposals for the hybrid development of Euston Station which were contained in the B.T.C. Bill which would shortly come before the House.

On straight lettings at ground rents, the Commission's income was £5 million a year. It was £2 million a year in 1948, and it had risen by £3 million since then. If the Commission could develop on the hybrid basis, it estimates it could increase its income from some of its sites by between twice and five times what it was getting from ground rent at the present moment. The book value of the land which it held, but did not need for its operational requirements, would come more into line with the real value.

If the Commission were in a position to arrange its own development, to let out that part which it wished to develop and to retain other parts for its operation development, it would be easier to marry the two.

"The Commission itself thinks," Mr. Hay added, "that if it had these general powers it would obtain planning permission from the local authorities much more easily than a private developer would be able to do. At the moment, the Commission owns land for which it has no immediate operational requirements, valued in its books at £28,335,767 as at December 31, 1958. As the modernisation plan proceeds and uneconomic branch lines, uneconomic stations, and uneconomic marshalling yards are closed, so the amount of land which the Commission will have coming back to it, and for which it will have no immediate operational requirements, will rise."

Since 1948 the Commission had been disposing of a good deal of its land. It had sold land worth £10 million. Currently, sales were going on wherever possible.

"It is perfectly clear," Mr. Hay said, "that the Commission would be much happier if it had the opportunity of developing the property on a commercial basis instead of selling it. The exact position at the moment is that the Commission has asked the Minister of Transport whether he would be willing to introduce legislation to enable it to have these two general powers. At the moment that is under consideration. I think there is a lot to be said for the policy of giving greater freedom to the Commission to develop its land, but there are certain arguments against it."

The first of two arguments which were sometimes put against development was: To what extent should a nationalised industry be permitted to compete in a field normally reserved for private enterprise? Whether the situation had changed since "the dogma," or the words included in the Transport Act limiting the Commission in carrying out this type of activity, was a matter for consideration and discussion now.

The second argument was that if any policy of re-development of its surplus were carried out by the Commission, much more capital would be needed. The money already advanced under the Finance Act of 1956 by the Treasury had been earmarked principally for modernisation.

"Any Minister," concluded Mr. Hay, "and any Government would have to think very carefully before being prepared to give the Commission *carte blanche* to go ahead and spend a great deal more capital in developing properties on something of a speculative basis."

Staff and Labour Matters

N.U.R. Wage Claim

Since we last reported there have been serious and rapid developments in connection with the claim of the N.U.R. for an immediate interim increase in pay for railway salaried and conciliation staff.

On January 29, the Chairman of the Commission and other Commission representatives met representatives of the three railway trade unions—the N.U.R., A.S.L.E. & F., and T.S.S.A.—all of whom are concerned in negotiations concerning the rates of pay of salaried and conciliation staff and are parties to the agreement setting up the Railway Pay Committee of Inquiry under the chairmanship of Mr. C. W. Guillebaud.

It was fully expected in some quarters that the meeting would end with the railwaymen being offered an improvement in their rates of pay. In a public statement issued on January 11, the Chairman of the Commission had stated that the terms of reference of the independent pay committee provided that "neither the Commission nor the trade unions can enter into any prior commitments on the report of the independent body." The Commission had protected the position of the staff who would not be placed at a disadvantage by reason of the report of the pay committee not being available until April next. The request of the N.U.R. for an immediate interim increase raised matters of concern to the other unions (A.S.L.E. & F. and T.S.S.A.), and it was for this reason that all three parties who subscribed to the terms of reference to the pay committee were invited to the meeting with the Commission representatives on January 29.

At that meeting the Chairman of the Commission made it clear that if the Commission was to make an interim settlement before the committee of inquiry had presented its report, that would constitute entering into a prior commitment on the report.

In saying this, it was emphasised that the Commission was not contending that no increase in pay to railwaymen was justified, nor was it saying that finance to meet an interim increase of any kind was unavailable. In point of fact, the Commission has already shown readiness to negotiate an interim settlement as soon as the report of the committee of inquiry was available.

After discussion lasting some three hours, the meeting terminated with the publication of the following agreed statement:

"At the invitation of the Chairman of the B.T.C. a meeting was held this afternoon (January 29) attended by representatives of the B.T.C., N.U.R., T.S.S.A., and A.S.L.E. & F., to discuss the position arising from the request of the N.U.R. for an immediate increase in pay.

"The Chairman of the B.T.C. said that he had made an agreement with all three trade unions to the effect that 'neither the Commission nor the trade unions could enter into any prior commitment on the report of the independent body.' He was unable to depart from this agreement at the request of one party to it only."

The N.U.R. Executive discussed the situation at union headquarters the same evening and subsequently advised the Chairman of the Commission that the following decision to withdraw labour as from 12.01 a.m. on February 15 had been carried unanimously:

"That having heard the report of the meeting at which our claim for an immediate pay increase was declined and having regard to the circumstances under which the refusal was made, we instruct the General Secretary to inform the Chairman of the B.T.C. that we have no alternative, having regard to the present position, but to instruct all our members to withdraw their labour from 12.01 a.m. Monday, February 15, 1960.

"In view of the above decision we instruct the General Secretary to instruct all our members to withdraw their labour as from that date but not to take strike action before it."

Despite representations from union headquarters, the London District Council of the union decided on the eve of the meeting between the Commission and the three railway unions to go ahead with the 24-hr. token strike called for Monday, February 1. Reviewing the position in the light of the notice of strike action issued by N.U.R. headquarters, the London District Council published the following resolution on Sunday, January 31:

"We recommend our members to defer the decision to take strike action on Monday. But at the same time, we recognise that many depots will take such strike action and with them we declare our solidarity."

On Monday, February 1, it was found that many of the London Underground workers had failed to report for duty and chaotic conditions resulted. Only a small percentage of the normal service of trains was run and certain tube stations had to be closed. The Metropolitan, Bakerloo, Circle, and Northern lines were the worst hit. Large numbers of travellers who normally go by rail took to the roads and congestion in the central London area and in roads in and out of London was described as the worst ever known. Long after the normal evening rush hour the congestion in central London was still chaotic.

B.T.C. Reply to Union Warning

In reply to the N.U.R.'s intimation to withdraw labour, Sir Brian Robertson has pointed out to the union's General Secretary that such action is contrary to both Clause 17 of the Memorandum of Agreement concerning the machinery of negotiation for railway staff, and the provisions contained in the joint statement on the setting-up of the railway pay inquiry.

Clause 17 of the machinery agreement stipulates that in no circumstances shall there be any withdrawal of labour or any attempt on the part of the staff to hamper the proper working of the railway until any matter in dispute has been submitted through the proper channels to the higher management, or, if such matter is within the scope of the machinery of negotiation, until the provisions thereof have been fully utilised.

The T.S.S.A. executive has endorsed its leaders' refusal on January 29 to associate itself with the N.U.R's request for an interim increase. It considers that the agreement between the Commission and the three trade unions not to enter into prior commitments on the pay committee's report should be honourably observed.

A.S.L.E. & F. has adopted a similar attitude.

The latest development at the time we go to press is that leaders of the three railway trade unions have agreed to meet the Chairman of the T.U.C. General Council, and Sir Vincent Tewson, General Secretary of the T.U.C., to discuss the crisis which has arisen.

Meanwhile, the Battersea branch of the N.U.R. has opposed the threatened strike action and declared that it prefers to await the report which, if favourable, will be backdated.

Contracts and Tenders

Steel foundry for Chittaranjan Locomotive Works, Indian Railways

F. H. Lloyd & Co. Ltd., steel founders and engineers, has received a contract from the Indian Railway Board for the design, erection of buildings, installation of plant and equipment, and the training of personnel for a steel foundry at Chittaranjan locomotive works. The foundry will be situated adjacent to the main assembly bays of the locomotive works, and will cover an area of 164,000 sq. ft.

The London Transport Executive has placed a contract with Kinnear Moodie & Co. Ltd. and Edmund Nuttall, Sons & Co. Ltd. for two lengths of experimental twin tunnel totalling one mile in length in the Finsbury Park area. The tunnel is on the alignment of the proposed Victoria line, and if sanction is received to proceed with the Victoria line project the experimental tunnel could be incorporated. The value of the contract placed is £400,000.

British Railways, Eastern Region, has placed the following contracts:

South Wales Switchgear Limited: supply, delivery and installation of one 33-kV. ring main unit at Shadwell

Fuller Electric Limited: erection of equipment for 25-kV. feeder stations and track sectioning cabins for 50-cycle a.c. electrification and supply and installation of earthing equipment, low tension a.c. connections, and other miscellaneous small wiring in buildings on the London, Tilbury & Southend Line

W. & C. French Limited: construction of troughing, pits, and so on, for cable/air main route to signalling at Ripple Lane, Barking

Siemens & General Electric Railway Signal Co. Ltd.: supply and installation of signalling equipment for remote control of Stepney East and Gas Factory Junction from Fenchurch Street, including automatic train control equipment between Fenchurch Street and Bow Junction

George E. Taylor & Co. (London) Ltd.: supply, delivery and erection of an electrical installation in No. 2 Carriage Body Shop, Stratford

Max-Arc & Electrics Limited: supply and delivery of eight sets of diesel-electric arc-welding equipment.

The Export Services Branch, Board of Trade, has received calls for tenders as follow:—

From Western Australia:

1 25-ton electric overhead travelling crane and runway, and the design and completion of minor alterations to an open timber framed building for its installation.

The issuing authority is the Western Australian Railways Commission. Bids should be sent to the Chief Civil Engineer, W.A.G.R. Commission, 605, Wellington Street, Perth. The tender No. is 812. The closing date is February 17, 1960. The Board of Trade reference is ESB/1074/60.

From Victoria:

1 internal grinding machine, complete.

The issuing authority and address to which bids should be sent is the Secretary for Victorian Railways, Melbourne, C.1. The tender No. is 61625. The closing date is February 17, 1960. The Board of Trade reference is ESB/905/60.

From South Africa:

2,000 rear brake linings, standard thickness 8 in. × ¾ in. × 8¾ in. × 8¼ in. rad. to S.A.R. drawing No. RMT.717/89/1.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. F.4226" should be addressed to Chief Stores Superintendent's Office, S.A.R., Room 203, Park Chambers, 97, Rissik Street, Johannesburg. Local representation is essential. The closing date is February 16, 1960. The Board of Trade reference is ESB/1077/60.

2 automatic steam generators.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. F.8114: Automatic Steam Generators," should be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. The closing date is February 19, 1960. Local representation is essential. The Board of Trade reference is ESB/1082/60.

2,283 bulkhead lighting fittings, clear glasses and wire guards to take 100W. ES lamps.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes endorsed "Tender No. C.8097—Bulkhead Lighting Fittings," should be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. The closing date is February 19, 1960. Local representation is essential. The Board of Trade reference is ESB/1079/60.

20 petrol-driven coachscrewing machines with standard attachments.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. F.8145: Coachscrewing Machines," should be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. The closing date is February 19, 1960. Local representation is essential. The Board of Trade reference is ESB/1080/60.

2 three-ton overhead electric travelling cranes, underslung type, cupola charging.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. C.7909: Cranes," should be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. The closing date is July 8, 1960. Local representation is essential. The Board of Trade reference is ESB/1078/60.

From Portuguese East Africa:

23 items of locomotive spare parts.

The issuing authority is the Ports, Railways & Transport Department, Lourenco Marques. The tender No. is 22/60. The closing date is April 11, 1960. A provisional deposit of Esc. 18,000 must be made by tenderers. The Board of Trade reference is ESB/1232/60.

From Egypt :

20,000 tons of flat bottom rails.

The issuing authority is the Egyptian Republic Railways. Bids should be sent to the Purchases & Stores Department, Railway Building, Fifth Floor, over Shoubra Subway, Shoubra, Cairo. The tender No. is E.R.302. G.3/122. The closing date is February 27, 1960. The Board of Trade reference is ESB/3140/60.

617,000 timber sleepers.

The issuing authority is the Egyptian Republic Railways. Bids should be sent to the address stated above. The tender No. is E.R.302. G.3/138. The closing date is March 12, 1960. The Board of Trade reference is ESB/3138/60.

6 *tonnes* of steel spring washers.

The issuing authority is the Egyptian Republic Railways. Bids should be sent to the address stated above. The tender No. is E.R.302. G.3/138. The closing date is March 7, 1960. The Board of Trade reference is ESB/3137/60.

Further details relating to the above tenders together with photo-copies of tender documents can be obtained from the Branch (Lacon House, Theobald's Road, W.C.1).

Notes and News

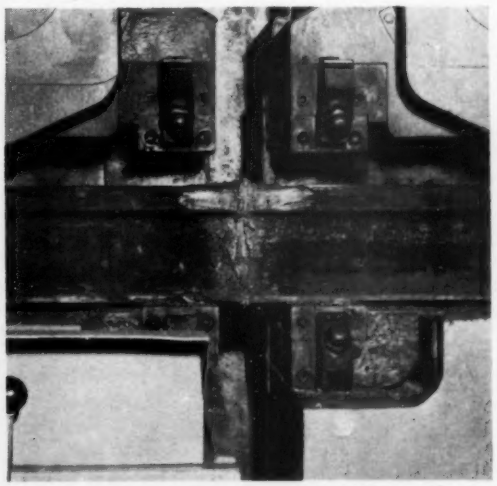
New Rail Welding Depot near Shrewsbury.—The ceremony of starting up the new rail welding machine for British Railways, Western Region, took place at Hookagate New Depot, near Shrewsbury, on January 26. It is proposed to carry out a series of test welds until the depot comes into regular production next summer when 300-ft. long rails will be made, and, later, 900-ft. rails. The illustration shows the starting button of the A1 flash-butt welding machine being pressed by Mr. R. A. Smeddle, Chief Mechanical & Electrical Engineer, Western Region, supported by Mr. M. G. R. Smith, Chief Civil Engineer, and Mr. J. Webb, Regional Accountant. Also shown are Messrs. I. G. Roberts, Resident Engineer; C. H. Diggory, District Engineer; and G. D. S. Alley, Assistant Engineer (Permanent Way).

Mr. John Hay Visits Western Region Signal School.—Mr. John Hay, Parliamentary Secretary to the Ministry of Transport, and M.P. for Henley-on-Thames, accompanied by Maj.-General Ll. Wansbrough-Jones, Secretary-General, British Transport Commission, visited the British Railways, Western Region, Signal School at Royal Oak on January 29. He was given a demonstration of signalling equipment and procedures, including the special safety precautions adopted during fog. The illustration shows (left to right): Mr. A. W. Woodbridge, Chief Signal Engineer, British Railways Central Staff; Mr. A. A. A. Cardani, Signal Engineer, Western Region; Maj.-General Ll. Wansbrough-Jones; Mr. John Hay; and Mr. C. W. Powell, Operating Officer, Western Region. Mr. Hay also visited the Departure Signalbox at Paddington to watch the handling of peak-hour traffic.

Mr. John Hay at the Western Region Signal School, Royal Oak, on January 29

Three Trains in Collision at Borough Market.—Peak-hour rail traffic to the south-east London suburbs and Kent was disorganised on January 28, after three trains collided at Borough Market Junction, near London Bridge, British Railways, Southern Region. The 2.22 p.m. electric train from Hayes to Charing Cross ran into the 1.20 p.m. diesel train from Hastings to Charing Cross. A third train, the 2.53 p.m. electric train from Charing Cross to Tattenham Corner, ran into the side of the Hayes train. The leading coach of each train was derailed. Four passengers were slightly injured. Normal service was restored soon after 5 a.m. the following day.

Starting the flash-butt welding machine at Hookagate Depot



Rail weld by A1 flash-butt machine

Re-signalling of L.T.E. Bow to Upminster Line.—The cables for the work described last week were supplied by Pirelli-General Cables Limited and not as stated in error on page 135.

Irish Railway Clearing House.—At a meeting of the Committee of the Irish Railway Clearing House held at 5 Kildare Street, Dublin, on January 27, Dr. C. S. Andrews, Chairman of Coras Iompair, Eireann, was elected chairman of the Committee for the year 1960.

Saltash Bridge Repairs.—On February 7 the Royal Albert Bridge, Saltash, on the British Railways, Western Region main line, between Devon and Cornwall, will be closed for 16 hours. The vertical and diagonals are to be repaired at the connection to the tension chord (chains) at the centre nodal point on one of the 455 ft. truss spans. Work at the other three similar points will be undertaken on the following Sundays.

Punctuality Drive in London Midland Region.—A campaign to improve punctuality in the Midland Division of British Railways, London Midland Region, began on February 1. Railwaymen received a letter in their pay packets during the week-end. Headed "Punctuality and You," it asked for their co-operation. The present situation, the letter stated, was serious, and was causing widespread criticism from passengers. But it could be tackled successfully "if we all contribute a little extra effort to see that trains run to time." Each section of the staff is addressed. The requests to station staff include encouraging passengers to join trains smartly; and keeping the public informed about the running of trains, with the aid of the public address system, verbal announcements, and notice boards. Footplatemen are urged to "get going, keep going, and when necessary, make up time to get there on time. Be ready for booked stops."

Forthcoming Meetings

February 9 (*Tue.*).—The Institute of Transport, North Staffordshire Group, at the Grand Hotel, Hanley, at 6.30 p.m. Paper on "The railway modernisation scheme as it affects the London Midland," by Mr. George Dow.

February 10 (*Wed.*).—The Institute of Transport, Southern Section, at the Harbour Board, Southampton, at 5.45 p.m. Paper on "C.A.V.'s contribution to British Railways modernisation programme," by Dr. W. Sutherland, Chief Electrical Engineer, C.A.V. Limited.

February 10 (*Wed.*).—British Railways, Southern Region, Lecture & Debating Society, at the Chapter House, St. Thomas Street, S.E.1, at 6 p.m. Paper on "The story of *The Railway Gazette*," by Mr. B. W. C. Cooke, the Editor.

February 10 (*Wed.*).—Institution of Mechanical Engineers, at 1, Birdcage Walk, Westminster, S.W.1, at 6 p.m. Internal Combustion Engine Group discussion: "What part will the fuel cell play in the provision of energy in the future?"

February 12 (*Fri.*).—The Institute of Transport, Northern Section, at the Royal Station Hotel, Newcastle, at 7 p.m. Paper by Mr. F. C. Margetts, Assistant General Manager (Traffic), British Railways, North Eastern Region.

February 16 (*Tue.*).—Railway Correspondence & Travel Society, Sheffield Branch at the Livesey Clegg House, Sheffield, at 7.30 p.m. Paper on "Special trains," by Mr. J. Pegler.

February 16 (*Tue.*).—The Institution of Locomotive Engineers, at the Instituton of Mechanical Engineers, 1, Birdcage Walk, Westminster, S.W.1, at 5.30 p.m. Paper on "Trends in transmission design for self-propelled diesel railcars," by Mr. A. Gordon Wilson.

February 17 (*Wed.*).—Peterborough Railway Discussion Group, at Peterborough Technical College, Eastfield Road, at 6.45 p.m. Paper on "Barking," by Mr. J. W. Dedman, Line Traffic Manager, Fenchurch Street, British Railways, Eastern Region.

February 17 (*Wed.*).—Railway Students' Association, at the London School of Economics & Political Science, Houghton Street, Aldwych, W.C.2, at 6.15 p.m. Paper on "Some aspects of the short sea trade," by Mr. S. A. Claydon, Continental Traffic & Shipping Manager, British Railways, Eastern Region.

February 17 (*Wed.*).—The Railway Club, at 320, High Holborn, W.C.1, at 7 p.m. Informal meeting with talks by Mr. C. F. Wells and Mr. J. H. Boyes.

February 18 (*Thu.*).—British Railways, Western Region, London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Paper on "Traffic problems and progress," illustrated, by Mr. A. E. Flaxman Commercial Officer.

February 18 (*Thu.*).—Institute of Traffic Administration, Glasgow Centre, at the Kenilworth Hotel, Queen Street, Glasgow. Paper on "Goods transport," by Mr. Allan Cusick.

February 20 (*Sat.*).—Railway Correspondence & Travel Society, South of England Branch, at C.B.B. Employees' Club, Palmerston Road, Boscombe, at 6.30 p.m. Debate with members of the Railway Conversion League.

February 22 (*Mon.*).—Railway Correspondence Society, West Riding Branch at Bradford. "Researches in the archives," by Mr. C. Smith.

OFFICIAL NOTICES

EXPERIENCED DRAUGHTSMAN required for Railway Rolling Stock Works. Consideration given to provision of a Company house for suitable applicant, five-day week, pension scheme. Apply: Commercial Manager, Charles Roberts & Co. Ltd., Horbury Junction, Wakefield.

CHIEF DRAUGHTSMAN required for Company engaged in the design and manufacture of Steam and Diesel Shunting Locomotives and General Engineering Work which includes Colliery Winding Engine Equipment. Applicants must have H.N.C. or equivalent and be capable of taking full charge of Drawing Office. Preference will be given to applicants with experience of Locomotive Engineering. The position offers excellent prospects to the right man. Pension Scheme. Write, giving details of experience, age and indication of salary expected, to the Director & General Manager, Andrew Barclay, Sons & Co. Ltd., Caledonia Works, Kilmarnock.

BRITISH NATIONALS required as DESIGNER-DRAUGHTSMEN for interesting development work—casting design experience if possible but not essential. Club and canteen facilities—five-day week. Apply Lightalloys Limited, St. Leonards Road, Willesden, N.W.10 or phone ELGar 7191.

THE DIRECTOR GENERAL, India Store Department, Government Building, Bromyard Avenue, Acton, London, W.3, invites tenders for the supply of:

	Qty. required
Main Bar Frames with Frame Clips completely machined on all faces for W.P. and W.G. locomotives	30 L.H. 30 R.H.

Forms of tender may be obtained from the above address on or after *February* 5, 1960, upon payment of a fee of 10s. which is not returnable. If payment is made by cheque, it should please be made payable to "High Commissioner for India." Tenderers must send their tenders so as to reach this office by 2 p.m. on Thursday, *March* 10, 1960.

Please quote Reference No. 59/59.DB/RLY.2.

Railway Stock Market

The rally in stock markets gained some further strength, although it is now felt in the City that an early return of the bank rate to 4 per cent is unlikely. It is being suggested that the 5 per cent rate may remain in force until the Budget.

There has been a better tendency in British Funds, including War Loan and other stocks offering above-the-average yields. Movements among industrial shares have been mixed, though moderate gains predominated. It is realised that many leading shares are already at levels which can be justified only if dividends are increased. Consequently, buying has become much more selective than a few weeks ago. Engineering shares have been favoured, partly on yield considerations, and partly because of improving trade prospects.

Movements among foreign rails were once again small and without any particular significance. Costa Rica ordinary stock, however, gained a point at 24½. The 6½ per cent first debentures were again 80. Guayaquil & Quito assented bonds were 78½, Brazil Railway bonds 8, while International of Central America were $24½ with the preferred $108½, Paraguay Central prior debentures were quoted at 15½.

Elsewhere, Antofagasta preference stock rose from 30 a week ago to 31½, but the ordinary stock remained at 15. The 5 per cent (Bolivia) debenture stock was quoted at 100.

Chilean Northern debentures were 59. United of Havana second income stock was again 6, with the consolidated stock 1. San Paulo Railway 3s. units were 1s. 6¾d. Mexican Central "A" bearer debentures were 57½. Canadian Pacifics were $47½ and White Pass $13½.

West of India Portuguese capital stock kept at 109½ and the 5 per cent debentures at 91½. Barsi Light Railway stock was 29½. Nyasaland Railways shares were again quoted at 10s. with the 3½ per cent debentures being quoted at 51½.

A feature among shares of locomotive builders and engineers has been a sharp advance in Birmingham Wagon on vague take-over talk; and although best levels were not held they showed a rise from 28s. 10½d. a week ago to 37s. 3d. Elsewhere, North British Locomotive moved up from 10s. 9d. to 12s., Charles Roberts 5s. shares were firm at 18s. 6d. xd, G. D. Peters changed hands around 21s., while Wagon Repairs 5s. shares rose from 11s. 3d. to 12s., and Gloucester Wagon 10s. shares strengthened from 15s. to 15s. 6d. Beyer Peacock 5s. shares held steady at 8s. 9d. Westinghouse Brake rallied from 55s. to 56s. 6d. helped by the chairman's annual statement and the strong balance-sheet position.

B.I. Cables strengthened to 58s. 9d., but Johnson & Phillips were little changed at 23s. 3d. Davy-United were good at 110s. 6d. and Babcock & Wilcox rose to 47s. 3d. compared with 45s. 6d. a week ago. T. W. Ward were marked up from 152s. 6d. to 160s. Vickers, at 35s. 3d., however, failed to hold an earlier gain. Ruston & Hornsby rose from 34s. to 35s. 3d. and Stone-Platt were again around 62s.

Pollard Bearing 4s. shares rallied from 39s. 9d. to 40s. 9d. and Ransomes & Marles 5s. shares gained 6d. at 25s. 6d. English Electric rose from 46s. a week ago to 47s. 6d., Associated Electrical from 63s. 3d. to 65s., and General Electric from 44s. to 44s. 9d., Pressed Steel 5s. shares rallied strongly from 40s. 10½d. to 42s. 9d. and Dowty Group 10s. shares from 50s. 3d. to 52s. 6d.

Lancashire Dynamo ordinary shares were up to 77s. 6d. following the news that Metal Industries have made their bid for the company unconditional. Metal Industries were 69s. 3d.